The Mining Journal
RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 608.—Vol. XVII. LONDON, SATURDAY, APRIL 17, 1847. [Price 6d.

SULPHUR.—TO BE SOLD, RODGERS'S PATENT FOR THE SEPARATION OF SULPHUR FROM MINERAL SUBSTANCES. Apply to Mr. Phillips, 2, Duke-street, Adelphi, London. 1

STEAM-ENGINE FOR SALE.—A capital CRAIG'S PATENT ROTATORY STEAM-ENGINE TO BE SOLD.—Inquire of W. P. Struve, Esq., Swansea; or of Mr. Charles Berkeley, solicitor, 59, Lincoln's Inn-fields, London. 2

LARGE PUMPING-ENGINE.—TO BE SOLD, BY PRIVATE CONTRACT, at GODOLPHIN MINES, Helston, Cornwall, one 80-inch pumping-engine, 10 feet stroke in the cylinder, and 8 feet in the shaft, with three tubular boilers of about 35 tons, a balance-bob and top-piece of rod to each. This excellent engine was erected by one of the first engineers in the county; the air-pumps are lined with brass, and the whole of the machinery possesses great strength and durability. It has done a "duty" equal to the first in Cornwall, and is well worth the attention of any gentleman or company requiring such a powerful machine. The engine will be sold with or without the boilers, balance-bobs, &c., as may best suit the purchasers.
Application to be made to Capt. R. Williams, on the mines.
Dated Godolphin Mines, Helston, Cornwall, February 23, 1846. 3

MERIONETHSHIRE.—TO BE LET, for a term of years, a MINING SETT, containing several highly mineral lodes, and particularly one of a very pure graphite (black lead)—explored to no considerable depth; has been analised by the first mineral chemist of the day, and pronounced worthy of a trial to a greater extent, which can be done at small expense, by parties requiring this article.
For particulars apply to Mr. James Jones, Dolgelly, North Wales. 4

MINERAL PROPERTY IN CARDIGANSHIRE.—TO BE DISPOSED OF, a FREEHOLD ESTATE, within 16 miles of ABERYSTWITH—a desirable property, in the centre of a rich mining district; or the MINERALS would BE SET, at moderate DUES or ROYALTY.—Specimens of the lead ore extracted may be seen, and every information obtained, on application to Mr. Benjamin Cook, Bradford-street, Birmingham; or to Mr. H. English, mining engineer, 25, Fleet-st., London. 5

A VERY IMPORTANT INVESTMENT—SOUTH STAFFORDSHIRE.

MINES OF COAL, IRONSTONE, AND LIMESTONE, at BENTLEY, between WOLVERHAMPTON and WALSALL.
TO BE LET, and may be ENTERED UPON and SET to WORK IMMEDIATELY, the
BENTLEY IRON-WORKS,
AND MINES OF COAL, IRONSTONE, LIMESTONE, SAND, AND FIRE-CLAY. 6

The IRON-WORKS consist of FOUR BLAST-FURNACES, with TWO BLAST-ENGINES, with all the necessary apparatus for heating the blast, upon the most improved principle; a large and extensive FOUNDRY, with powerful cranes, pipe pits, stoves, air-furnace, &c., with smiths' shops, pattern-makers' shops, HIGH-PRESSURE ENGINE, for working a boring-mill, lathes, &c.

Together with the MINES of COAL, IRONSTONE, LIMESTONE, SAND, and FIRE-CLAY, and RED BRICK CLAY, lying under about 511 acres of land—all in a ring fence, without any intermediate property, and adjoining the blast-furnaces, upon which is now erected a large and valuable water, or mine, engine, of sufficient power to drain the whole of the mines. Also, FIVE WINDING-ENGINES, with numerous shafts sunk down to the various mines, which consist of—

Coals.	*Ironstones.*
THE HEATHEN	THE BINDS
THE THREE-FEET	THE BLACK GUBBIN
THE FIVE-FEET	BROWNSTONE
THE FIRE-CLAY	NEWMINE
THE BOTTOM	ROUGH HILL, or ROBIN
	BOTTOM GUBBIN
	BLUEFLATTS
	SILVERTHREADS
	DIAMOND

The limestone, which has been sunk down to and worked, is of the same description as that found at Dudley and Walsall, and consists of two beds—one about four yards thick—of first-rate quality, for the use of iron-works; and the other about 10 yards thick, also well adapted for iron-works, building, or agricultural purposes. The fire-clay has been proved to be of equal quality with that of Stourbridge.

The mines of ironstone, called the "Blueflatts," and "Bottom Gubbin," are too well known, by parties acquainted with the neighbourhood, to require comment.

The mine of ironstone, called the "Brownstone," is identical with the black-band of Scotland, which has been one of the principal means of raising the iron trade there to its new high position; and, with a limited exception, is not found in the South Staffordshire district, except in the Bentley estate, and is now being conveyed several miles to the less fortunate parts of the district to be smelted.

The mines of coal are of that nature which well adapt them for the use of iron-works, either in the blast-furnace, foundry, or forge.

All the mines of coal and ironstone are now being worked, either upon the other parts of the Bentley estate, or in the immediate neighbourhood, and can be viewed at any time.

The property is well provided with canal and railway communication. The Anson Branch of the Birmingham Canal commences within a few yards of the blast-furnaces. The Wyrley and Essington Canal, and the London and North-Western Railway, pass over the estate.

The iron trade being very prosperous, with every probability of remaining so for many years, parties wishing to embark in it have an opportunity here which is very seldom met with. The works may be entered upon immediately and put into operation, without having to contend with all the tediousness which always, more or less, accompanies new undertakings.

It is a well-known fact, that there are but few tracts of valuable coal and ironstone property now to be met with in South Staffordshire, and several of the first ironmasters of the district have availed themselves of an opportunity of taking several large tracts of similar mines from the Bentley estate, and are now at work upon them.

A plan of the property, and sections of the mines, may be seen, and any further information obtained, by application to Messrs. Vizard and Leman, solicitors, Lincoln's Inn-fields, London; Messrs. White, Broughton, and White, solicitors, 12, Great Marlborough-street, London; Messrs. Ingleby, Wragge, and Cope, solicitors, Birmingham; Harvey Wyatt, Esq., Acton-hill, near Stafford; and Mr. James George, mine surveyor, Bentley, near Walsall, Staffordshire.

TO BE LET, the PARK-HILL MINES, DEAN FOREST, GLOUCESTERSHIRE—containing ONE MILLION TONS OF COAL, and ONE MILLION TONS of rich IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post-paid) to Henry B. Fryer, Esq., solicitor, Coleford, Gloucestershire. 7

TO CAPITALISTS CONNECTED WITH THE IRON TRADE AND RAILWAYS.—TO BE DISPOSED OF, and may be entered on immediately, in good working order, with workmen properly appointed, all those new and substantially-erected works, called the

FORGES DE LA RISLE IN PONT-AUDEMER,

Capable of manufacturing 200 tons of iron per week. The present proprietors having other important engagements, is the sole cause of their being parted with. The most satisfactory information will be given to parties who may be really desirous of purchasing; and to those who may wish to realise good interest for their capital, with little or no risk, the present offers every inducement and advantage. The whole establishment has been erected within the last two years, regardless of expense; and it is undoubtedly equal, if not superior, to any thing of the kind in France, or any other country—not omitting England, which stands unrivalled in the world.

The works embrace three excellent water-wheels, of the aggregate power of 180 horses—these give motion and power to machinery for working a sheet and plate mill; a forge, with 30 puddling-furnaces; ball, scrap, and reheating furnaces; a steam hammer, or drawing-out forge; a mill for rolling axles, tyres, rails, and every kind of iron for railway purposes; and a bar, or merchant, mill for iron of almost every description.

The whole is covered over with most excellent and large slated roofs, supported by cast-iron columns and brick arches. Vessels of nearly 100 tons burthen come up to and discharge their cargoes of iron and coal into the depôts for that purpose, which are most conveniently arranged for the advantage of the works.

The offices, houses for managers, and workmen, and also for principals, are all that could be desired; in fact, the whole establishment should be seen to be duly appreciated. The proprietors will treat liberally with any person, or company, who may be willing to purchase the whole as it is now in operation; or they will dispose of the plant and machinery (which can be made applicable, at little cost, for rolling zinc, copper, and other metals) without the stock.

Further particulars may be obtained by applying to Mr. Johnson, at the works; or of Mr. Favrin, No. 144, Avenue des Champs Elysées, Paris.

SPLENDID PROPERTY.—TO BE SOLD, the beautiful DOMAIN of the CHANET, situated at half an hour's distance from the town of NEUFCHATEL (Switzerland), consisting of 30 hectares of close ground, about one-half in meadow, arable land, large gardens, orchards, and vineyards, and the other half in forest land. Two excellent RESIDENCES, with sufficiently spacious apartments for two families, and a detached HOUSE for the farmer. A large FARMHOUSE, having barns, stables, green-houses, and a bee-hive. This estate, by its situation, being a little above the Lake of Neufchatel, which it commands, and, at the same time, on the borders of the forests, offers one of the most delightful retreats, and the view which is enjoyed from the terrace, is most extensive, presenting, in the foreground, the town of Neufchatel, and the landscapes which present themselves on the banks of the lake; in the distance is the magnificent panorama of the chain of the Alps of Sentis (Appenzell) to Mont-Blanc, which is justly appreciated as one of the finest views of Switzerland. The disposers of the property refer parties for its description to the esteemed "Traveller's Guide in Switzerland," by Ebel. They will enter into an agreement for the sale of the domain between this and the 1st of June, with the purchaser who may offer them satisfactory terms.
Address, at Neufchatel, to M. le Professeur Prince; or to M. Calame, Conseiller et Secrétaire d'Etat. 8

TWENTY POUNDS REWARD will be GIVEN BY Mr. THOMAS BELL, of GREAT FOLGOOTH MINE, ST. AUSTELL, to any PERSON who may give such INFORMATION as shall LEAD to the DISCOVERY and CONVICTION of the WRITER of an ARTICLE in the "MINING JOURNAL" of the 3d inst., signed "Thomas Penhall Smith."
St. Austell, April 14, 1847. 10

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 11

BANWEN IRON COMPANY.—Notice is hereby given, that the directors of this company have to-day made a further CALL of TWO POUNDS per share, which the shareholders are requested to PAY in to the bankers of the company, Messrs. Spooner, Attwood, and Co.'s, Gracechurch-street, London, on or before the 14th day of July next. By order, S. P. HARRIS, Secretary.
Offices, 23, Threadneedle-street, London, April 13, 1847. 12

BRITISH IRON COMPANY (Old Company, established 1825).—Notice is hereby given, that this COMPANY being about to be DISSOLVED, under the Act 7 and 8 Victoria, cap. 46, all PERSONS INDEBTED to the company are required forthwith to PAY the AMOUNT due from them; and all PERSONS having any CLAIMS on the company are required to SEND in the SAME to me, at the New British Iron Company's offices, South Sea House, London, preparatory to the final liquidation of the company's affairs. By order of the directors,
ROBERT SMITH, Secretary. 13

LLYNVI IRON COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of shareholders will be HELD at this office on Wednesday, the 21st inst., at Twelve o'clock precisely, for the purpose of authorising the division of shares of £250 each into shares of £50, in conformity with the 26th clause of the company's Act. By order of the board,
21, Moorgate-street, London, April 12, 1847. F. W. GIBBON, Secretary. 14

PATENT GALVANISED IRON COMPANY.—Notice is hereby given, that a SECOND EXTRAORDINARY and SPECIAL MEETING of this company will be HELD at the London Tavern, Bishopsgate-street, at Two o'clock precisely, on Tuesday next, the 20th April inst., to confirm (or otherwise) the resolutions passed at an Extraordinary and Special Meeting, held on Tuesday, the 13th inst., for the purposes of altering and extending clause 90 in the Deed of Settlement; and of enacting such other clause, or clauses, necessary to confer further powers on the directors, in respect of borrowing money on debenture, mortgage, or otherwise.
By order of the board, S. VINCENT, Secretary.
3, Mansion-house-place, London, April 14, 1847. 15

PATENT GALVANISED IRON AND WIRE ROPE WORKS, *MILLWALL, POPLAR.*
ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.—Mr. I. T. Tregellas, Truro, agent for Cornwall. 16

STEAM-ENGINE.—Published this day, in 1 vol., royal 12mo., price 3s. 6d., PART I., of A SHORT TREATISE ON THE STEAM-ENGINE; adapted to the Use of Schools, in which are given, PRACTICAL RULES FOR THE USE OF ENGINEERS. By JAMES HANN, A.I.C.E., of King's College.
Part II., completing the work, in the press.
John Weale, 59, High Holborn. 17

STEAM TO INDIA VIA EGYPT, MALTA, ITALY, ALEXANDRIA, AND THE PENINSULAR PORTS.
PASSAGE TO BOMBAY, MADRAS, AND CALCUTTA.
The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, and CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, *en route* to Bombay, on the 1st of every month. 18
A steamer from Southampton leaves the 1st and 20th of every month for Malta, where are steamers to Naples, Genoa, Civeta Vecchia, three times a month.
STEAM TO CORUNNA, OPORTO, VIGO, LISBON, CADIZ, AND GIBRALTAR.
A steamer leaves Southampton on the 7th, 17th, and 27th of every month.
Apply at the Peninsular and Oriental Steam Navigation Company's offices, 51, St. Mary Axe, London, where only passages can be secured throughout.

COOMBE VALLEY SLATE COMPANY.
Capital £5000, in 1000 shares, of £5 each.—Deposit £1 per share.
CONDUCTED ON THE COST-BOOK SYSTEM.
OFFICE, No. 5, WHITEFRIARS-STREET, CITY, LONDON.
Messrs. Williams, Deacon, and Co., bankers. 19

The public is respectfully informed, that, in pursuance of a resolution, passed at the meeting of shareholders, held at the office, on Thursday, the 8th inst., that the SHARES will be ALLOTTED on the ABOVE TERMS, during the present month only, by personal application being made at the office of the company; or of Mr. J. Lane, 75, Old Broad-street, City. C. S. RICHARDSON, Secretary.
5, Whitefriars-street, Fleet-street, London, April 15, 1847.

CAMBRIAN ANTHRACITE IRON COMPANY.
(PROVISIONALLY REGISTERED.)
Capital £200,000, in 20,000 shares, of £10 each.—Deposit 1s. per share, pursuant to 7 and 8 Victoria, cap. 110. 20
On formation of the company, a call of £1 per share to be made—the remainder (if necessary) in instalments, not exceeding 10s. per share.
It is proposed to apply for an Act of Incorporation for various powers, and to limit the liability of the shareholders.
An agreement has been entered into for the leasing of considerable mines in the western portion of the South Wales Mineral Basin, together with the machinery, steam-engine, railroad, trams, canal barges, &c., at a very reasonable rate. The public are invited to inspect the maps and sections of the mines, and the estimates and calculations of working the same, at the offices of Mr. Towse, solicitor, 34, Laurence Pountney-lane, City, where applications for shares may be made, and further information obtained.

GEORGIA TIN MINES, divided into 2048 shares, and worked *ON THE COST-BOOK SYSTEM.* 21
The necessary arrangements having been made for carrying out the operations of the company, all future communications are requested to be addressed to the offices of the company, 21, THROGMORTON-STREET, LONDON, where the specimens and plans, with the correspondence, may be seen.

NORTH WALES MINING COMPANY.—
COUNTY OF MERIONETH.
Divided into 12,500 shares—limited to 10*l.* each, and carried out upon the Cost-Book System, with a deposit of 2*l.* 10s. per share.
OFFICES—No. 2, NEW BROAD-STREET, LONDON. 22
The company will be carried on under the system known in Cornwall as the "Cost-book System," whereby the shareholders have the peculiar advantage of determining at any time their liability by a relinquishment of their shares; and by a clause in the Cost-book, no further call beyond the 2*l.* 10s. will be made until after a dividend is declared out of the profits of the undertaking.
The public is requested to seek information at the offices of the company, No. 2, New Broad-street, London, where specimens of the ores, and original assays by some of the principal assayers of the present day, as well as the manuscript reports of Captains Kitto, Matthew Francis, and Wm. Williams, may be inspected.
Applications for prospectuses, copies of the reports, and shares, to be made to the purser, at the company's offices; the solicitors, W. W. Fisher, Esq., 3, King-street, Cheapside, London, and Messrs. Owen and Griffiths, Dolgelly, Merioneth; and the following brokers and agents:—Mr. B. Rankin, 23, Tokenhouse-yard; Messrs. Watson and Cuell, 1, St. Michael's-alley, Cornhill; and Mr. C. W. De Bernardy, 46, Leicester-square, London; Messrs. Thomas Cardwell and Sons, and Mr. J. Fernayhough, Manchester; Mr. P. Kempson, Birmingham; Mr. C. S. Edsall, Truro; Mr. James Cunningham, jun., Bristol; Capt. W. Williams, near Crowan, Cornwall; Messrs. C. Wellbeloved and Co., Leeds.—Copies of the Prospectus can also be had at the office of Mr. Henry English, mining engineer, 25, Fleet-street; and at the *Mining Journal* Office, 26, Fleet-street, London.
W. T. GRIFFITHS, Purser.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,
23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,* 23
to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

THE PATENT SAFETY FUSE,
FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."
Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 24

WANTED.—AN ENGINEER, who has been employed to carry out several PATENTED INVENTIONS, wishes to meet with SIMILAR EMPLOYMENT: he has several mechanical improvements of importance, which he also wishes to introduce to the public.—Address (post-paid) to "A. B. C.," *Mining Journal* Office, 26, Fleet-street, London. 25

TO MINE ADVENTURERS.—A respectable YOUNG MAN, who has had considerable experience in Cornwall for the last nine years, as an ASSAYER OF COPPER, SILVER, LEAD, TIN, IRON, &c., and also a general knowledge of SMELTING and PRACTICAL MINING, OFFERS his SERVICES to any GENTLEMAN, or COMPANY, concerned in the above branches. He has been abroad, and is acquainted with the Spanish language, and has no objection to go again—especially to South Australia.—Letters (post-paid), addressed to Mr. James Lane, 75, Old Broad-street; or at the office of the *Mining Journal*, 26, Fleet-street, London, will receive every attention.
April 10, 1847. 26

MESSRS. J. PAINTER AND CO, SHAREBROKERS,
MINING AND GENERAL AGENTS,
25, *CASTLE-STREET, LIVERPOOL,*
AFFORD EVERY INFORMATION as to the STATE of the MARKETS, PRICES, &c., upon application. 27

JAMES BLACK & CO., STOCK AND SHARE BROKERS,
PRODUCE AND COMMISSION AGENTS,
ALLIANCE LIFE AND FIRE ASSURANCE COMPANY'S OFFICE,
7, *ADELPHI-COURT, ABERDEEN.* 28

MR. R. TREDINNICK, MINING AGENT AND DEALER
IN EVERY DESCRIPTION OF SHARES.
THREE KING'S COURT, LOMBARD-STREET, LONDON. 29

THOMAS P. THOMAS, MINE AGENT, AND DEALER
IN RAILWAY AND OTHER SHARES.
18, *THREADNEEDLE-STREET, LONDON.* 30

MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

WATSON AND CUELL, MINE AGENTS.—
N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain. 31

WILLIAM H. SMITH, MINING SHARE AGENT,
10, *WARNFORD-COURT, THROGMORTON-STREET,*
has SHARES FOR SALE in the following MINES—Viz.:

WHEAL LOUISA,	ALBERT CONSOLS,
WHEAL BLENCOWE,	WEST SHEPHERD,
WHEAL MARY PENTUAN,	VICTORIA TIN MINING COMPANY.

*** Every information will be afforded on application. 32

MESSRS. LINTHORNE, JONES, AND CO., STOCK,
MINING, AND SHARE AGENTS,
*** Every information will be afforded as to the markets and prices of the above, by application (post-paid) at their offices,
48, *THREADNEEDLE-STREET, LONDON.* 33

MR. I. A. JOSEPH, STOCK, SHARE, AND GENERAL MINING AGENT,
7, *BANK CHAMBERS, LONDON.* 34
N.B.—A few SHARES in the TOL PETHERWIN MINE FOR SALE.—PURCHASER of ALFRED CONSOLS and WHEAL MARIA (Hayle).

JONATHAN DAVEY, MINE AGENT, SURVEYOR, AND SHAREBROKER,
MATTHEW-STREET, TAVISTOCK. 35
Mines surveyed, inspected, and reported on, at the shortest notice; plans, sections, and dialling performed, by day or contract.

JAMES LANE, MINING SHARE DEALER,
75, *OLD BROAD-STREET, LONDON.* 36

MESSRS. WINSTANLY AND CO., SHAREBROKERS, inform their friends and the public, they BUY and SELL every description of RAILWAY SHARES on the most advantageous terms; they also make advances upon the deposit of scrip and shares for periods as may be agreed.
6, Bank Chambers, City. 37

MINING ADVENTURERS' SUBSCRIPTION ROOM,
AND REGISTRY OFFICE,
FOR THE SALE AND PURCHASE OF MINING SHARES.
CROSSMAN, SOMMERS, & CO., AGENTS,
No. 28, THREADNEEDLE-STREET, LONDON. 38

CORNISH MINES.—The evils attendant on the too frequent practice of brokers being also speculators and mine jobbers, are daily acknowledged by the adventurers in Cornish mines. Such brokers are in the habit of watching the market and purchasing on private speculation, as prices of shares rise or fall, and thus absorb the greater part of that profit which should come into the hands of the *bonâ fide* adventurer. It is admitted that it would be highly desirable to check this practice, with which view the advertiser presents himself to the notice of the mining public, and solicits their support as a COMMISSION AGENT, through whom sales and purchases of mining shares can be effected with the certainty of the full price in every instance being paid to the seller, subject only to a fixed commission of 5 per cent. on all sales not exceeding £30; of 2½ per cent. on all shares exceeding £30 and not exceeding £300; and 1¼ per cent. on all sales above that amount.
The testimonials which, through the kindness of his friends and supporters, JOHN TREGONING can offer to the public, will afford a satisfactory assurance to his patrons that he will not, under any circumstance, become a speculator or mine jobber, nor directly or indirectly be possessed of a share in any mining adventure.
JOHN TREGONING 39
purposes OPENING a MINING OFFICE, at the HIGH CROSS, TRURO, on MONDAY, the 19th inst., for the purchase and sale of mine shares on commission; and lists, with prices for sales and purchases, will be open, except as to the proprietors' names, to the inspection of any adventurer or purchaser. In addition to the above named testimonials, J. T. is permitted to refer parties, as to his character and integrity, to Messrs. Willyams, Hodge, and Co., Miners' Bank, Truro; Messrs. Baynard and Sons, merchants, Truro; or, Messrs. Passingham and Simmons, solicitors, Truro.
High Cross, Truro, April 15, 1847.
J. T. has SHARES ON SALE in the following, amongst other, promising MINES:—

Tresavean	Garras Mine
Treviskey and Barrier	Gwinear Consols
Wheal Comfort	Wheal Lemon
Wheal Andrew and Nangiles'	Wheal Dyke
Wheal Tremayne	West Wheal Seton
Rose Consols	Burthy Mine
West Wheal Providence	Great Callestock Moors
Wheal Maria (Tin)	Wheal Trerew

CONSOLIDATED TRETOIL MINING COMPANY.—
The directors hereby give Notice, that, in conformity with the resolution of the meeting, on the 3d ult., a GENERAL MEETING of the shareholders will be HELD at these offices, on Friday, the 23d April inst., at Two o'clock P.M. precisely.
HENRY THOMAS, Secretary.
Mining Offices, 9, George-yard, Lombard-street, April 6, 1847. 40

SOUTH FRIENDSHIP WHEAL ANN MINE.—A FEW FORFEITED SHARES in this MINE FOR SALE.—For particulars apply to Messrs. Crossman, Sommers, and Co., Mining Adventurers' Subscription Room, No. 28, Threadneedle-street, London. 41

TINCROFT MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders will be HELD on Friday, the 30th of April, at 44, Finsbury-square, at Two o'clock precisely.
London, April 5, 1847. 42

TRELEIGH CONSOLIDATED MINING COMPANY.—
Notice is hereby given, that a DIVIDEND of SIX SHILLINGS per share, being 5 per cent. upon the paid-up capital, has been declared by the directors, and that the same will be PAID at the office, on Monday the 3d of May next, and on every subsequent Monday, between the hours of Eleven and Three. The certificates will be required to be left two clear days, for the purpose of being marked.
57, Old Broad-street, April, 1847. WILLIAM NICHOLSON, Secretary. 43

WHEAL WALTER, DEVON.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders, or adventurers, in the above mine, will be HELD at 4, King-street, Cheapside, London, on Thursday, the 22d day of April, 1847, at Two o'clock in the afternoon precisely.
WALTER WEEKES, Purser. 44

WEST WHEAL JEWEL MINING ASSOCIATION.—
Notice is hereby given, that the ANNUAL GENERAL MEETING will be HELD at the company's offices, as under, on Monday, the 10th May next, at Twelve for One o'clock precisely. By order,
57, Old Broad-street, April 12, 1847. WM. NICHOLSON, Secretary. 45

PROTECTION OF BUILDINGS, &c., FROM THE EFFECTS OF DISCHARGES OF ATMOSPHERIC ELECTRICITY.

A lecture on this interesting subject was delivered at the Western Literary and Scientific Institution, on Monday last, by Mr. William Smith. The introductory matter, though necessarily of an elementary nature, possessed both novelty and interest, and reflected much credit on the author, for his careful condensation of comprehensive details. The lecturer, after adverting to all known facts relative to the nature and operation of thunder storms; an enumeration of conducting and non-conducting substances; of the metals, the best conductors of electricity; the different appearances of lightning; an account of the destructive effects of lightning on many public buildings, &c.: he well remarked—"If, then, the effects of this element are so fearfully powerful on *terra firma*—so disastrous to our finest and most noble structures, scattering in its course some of the best works of our most celebrated architects—endangering, if not destroying, human life and limb—what can express the fearful nature of such a calamity at sea—unprotected, unprepared, the vessel and crew are completely at the mercy of this most destructive agent. The number of vessels belonging to the naval and mercantile marine of this country alone, which have been totally lost, or seriously disabled, attended by a fearful sacrifice of human life by this means, is almost beyond belief. Until within these few years so little attention ever was paid to this matter, that accident after accident occurred in the Royal navy, without any means being adopted to reduce the liability to, or frequency of, such occurrences."

After some further general remarks, and a reference to the well-known suggestion of Dr. Franklin to protect buildings from the effects of lightning, and a quotation from his writings, to show the importance he attached to a system of lightning conductors, Mr. Smith proceeded:—A conducting rod, whatever the metal may be of which it is made, or the manner in which it may be applied, should be viewed only as a connector of the various conducting parts of the entire mass of buildings, ships, &c., to allow of the transmission of discharges of electricity with security, which would otherwise not pass without intermediate explosion, and consequent damage—for were buildings, &c., composed entirely of metal, there would be no occasion for such an addition; nay, the occurrence of accident to them would then be unknown. We have now, however, to consider whether the suggestions of Franklin are practically the best in detail, or whether the study of electricity as a science, combined with the experience of many years' practice in the application of different forms of conductors, has led to the adoption of other materials in other forms. It is believed that, if not the first, certainly amongst the earliest applications of a conducter for this purpose was a rod erected in this country by a Dr. Watson, in the year 1762 or 1763, and, about 1770, we find from *Marbuck's Encyclopædia*, that the cathedral at Sienna was fitted with a conductor, consisting of large bars of iron. The popular prejudice of the time caused it to bear the appellation of the "*heretic rod*:" a terrific thunderstorm, however, visited the city—the cathedral towers seem doomed to destruction—a vivid flash, a hissing noise, and a loud peal took place in almost instantaneous succession—the darkness consequent upon the vividness of the flash disappeared—and the tower stood, even to its gilded ornaments, unscathed.

The results of experimental inquiry, and practical application, have shown that, in the consideration of conductors, they should be composed of the best conducting metal (commercially considered); they should possess a perfect continuity in all their parts; they should have the greatest electrical capacity; and, in form, should have the greatest amount of surface for a given quantity of material. Where these conditions are fulfilled their application to buildings require the first consideration—their superior terminals should be securely fixed above the highest immediately surrounding object, and be continued in the shortest and most direct line to the earth, being, in their course downwards, fixed closely and securely to the external walls of the buildings, terminating at their inferior extremity below the surface of the ground from the wall dipping downwards—where practicable, they should be continued into some well, drain, or damp place, away from the building. Another and important point, about which there has, until lately, been much cavil, is, that not only should the conductor be fixed close to the wall, but be connected also with all the principal metallic surfaces in the building. For marine purposes the same conditions equally apply; but the *particular method of application* here required is necessarily different to that in buildings; and, as this paper has to treat of the *different forms* of conductors, proposed especially for this purpose, it is only right, in justice to those who may differ with us in certain points, to leave it for judgment after hearing. To fulfil the first condition, *copper*, as a material for the construction of conductors, has been found the best in a commercial point of view; for the second and third conditions, copper rods, copper chain, copper tube, flat copper strips, and copper wire rope, have been severally proposed, recommended, applied, and tested; to fulfil the fourth condition, copper tubes, copper strips, and copper wire ropes, have been also proposed and tried. We will next proceed to consider the relative merits, advantages, and disadvantages, of the several forms in the order as recited in connection with the second consideration, beginning with the copper rod for buildings—this form has been applied according to the rules given in previous parts of this paper, and the most extensively—the mean diameter of those erected being ½ or 1 inch; they have been applied to churches, towers, monumental pillars, chimney shafts, and high buildings of every kind, with success, as regards their efficiency.

The objections to this form, *since the introduction of others*, are, that for plain and straight buildings, such as the gable end of houses, chimney shafts, &c.—1. The number of joints render the perfect continuity dependant upon the care and skill of the workmen employed; 2d, the expense of making these joints; 3d, the greater cost for a given surface, &c. For other forms of buildings, as spires, towers, &c., where the conductors require to be bent, set, and filled in various positions, the waste of material in cutting, and the time required in applying and connecting the lengths of rod, and the expense attendant thereon, are amongst the principal objections. For marine purposes they are practically inapplicable—their form, and the arrangement of the masts, &c., preclude their being fixed thereto; even if they were, they must, of necessity, be grooved into the masts, which would weaken this important part of the ship—the superior masts having to be raised and lowered, the difficulty in effecting a perfect mechanical contact is also great—the termination of this form and application of conductors is most objectionable; continuing down the mast, it must either go through the bottom, with the risk of imperfect continuity, and consequent disruptive discharge, or be conducted out of the vessel by branches at right angles, which are, of course, not only exceedingly objectionable in theory, but most dangerous *in practice*; as also is the introduction *at all* of the discharge *into* the vessel, which, if there be another mode, is by all means to be avoided. That this form cannot be applied to the shrouds, or rigging of a vessel, will be readily understood.

The next form is that of a chain—this possesses no advantage over the rod conductor for buildings. For marine purposes, it has one advantage in its form over the rod, as it is better calculated for, and more applicable to, the standing rigging of vessels—for by its means the desirable end of carrying outside and overboard the charge of electricity is obtained; but, to ensure perfect security, by a sufficiency of surface, and approximately perfect continuity, the chain must be made of as large a size of copper rod as that before given. This is an objection—for, in consequence of the form of the link, &c., the necessary quantity of material to form it perfectly, is considerably more than is required for the purpose of conduction; the weight, of course, is considerable and useless, the cost is unnecessarily great, the liability to break from its own weight and form, and, when arranged as a permanent conductor, subject only to the lowering of the upper masts. The wear from its own weight, and the friction produced, by the continuous motion of a vessel in service, comparatively soon damages the chain, and wears the links. If applied as a temporary means to guard against electric discharges, and when it has to be triced up on the indication of a coming storm, its application in time, of course, depends entirely upon the foresight and judgment of those in charge of the vessel—these are amongst the principal objections to the chain.

The next form is that of the tube—when intended for buildings, this form, if of sufficient size, possesses equal advantages with the rod; but, in addition to having the disadvantages of that form in a much greater degree, is, besides, more easily injured, and, after a time, broken. For marine purposes, the same reasons for its inapplicability exist as in the copper rod.

The next form is that of flat copper strips, or ribands, which, for building purposes, possess no advantages over the rod—and they are as difficult of application, and considerably more expensive; but it is for marine purposes they were principally intended. They are formed by two plates of copper, each 2 in. to 4 in. wide, and one ¼ in., and the other 1-16th in. thick; these have holes drilled and countersunk in them, and are riveted together—*forming* a plate 3-16th in. thick. These plates are let into the masts—the masts having been previously grooved out, and dove-tailed to receive them—from the cap at the head to the foot of the mast on its after side; these being let into, and securely spiked and fastened to the lower, top, top-gallant, and superior masts—the highest of which is terminated with a copper vane and spindle, fitted into a socket cap;—under which, and in mechanical contact, is placed the copper strips, which are continued down the several masts; and where the foot of the upper mast comes into the cap of the lower mast, contact is intended to be made by a loose tongue, or flap, hung on centres, to allow of the mast traversing up and down in the cap. The lower mast is fitted with the plates in the manner before described; they are continued down until they reach the step of mast over that by a branch running fore and aft. The charge is here divided, and passes through copper bolts, fastening this horizontal plate to the keelson, &c.; and, in the under side of deck-beams, another set of plates are placed—they branch off abruptly to each side of the vessel at about right angles with the mast. These branches terminate in connection with the sheathing. Of the objections to this plan of marine conductors, we will give some of those contained in the evidence taken by the commission appointed to inquire into shipwreck by lightning, and reported by them to the House of Commons.

Sir Wm. Symonds, the surveyor of the Navy, in his evidence, states, that he objects to the electricity being conducted through the ship; further, to their great expense, which is shown in the report before the commission, to vary, at the lowest estimate, for the smallest, to the first class vessels, to cost from about 103*l.* to 400*l.*—the destruction to the masts of all ships, to which they are applied, should it be necessary to remove them—the injury to the spars, by applying these conductors from the insertion of the spikes, and the consequent splitting of the masts, and admission of wet. The spars of the *Caledonia* had been injured by them in this way, and were condemned in consequence.

Mr. Edye, the assistant surveyor, gave the following evidence:—He did not approve of the plan proposed for applying the conductors to ships; he thinks that the plan would only be applicable to the Royal masts. The principal objection that he entertained to the system, was leading lightning into the ship—as, in heavy discharges, explosions would take place, and damage, or set fire to, the ship. The liability to the interruption of their continuity was great, and would easily escape detection—that a break of 1½ in. would certainly cause an explosion. Had witnessed the danger of leading the electricity inboard, when the *Fangoo* was destroyed, in 1890, off Ceylon; the electricity struck her bowsprit, descended by the chain cable into her hold, exploded, and set her on fire—was master shipwright at Trincomalee at the time—sent out boats, and picked up the crew.

The next and last form of conductor to which we have to draw your attention, is the patent copper-wire rope—a specimen of which I hold in my hand. This form completely fulfils the several conditions recited in a former part of this paper—viz., it is composed of the best conducting metal (commercially considered)—it possesses the most perfect continuity of its parts—it has ample electrical capacity—and its form gives the greatest amount of surface for the quantity of material employed. When applied to buildings, according to the recommendations given as general principles, it will be the question for your consideration, whether this be not the best form of conductor for buildings. It meets the objections urged against copper rods, as regards the shortness of the lengths in which that material can be obtained, and the consequent number of pieces and joints necessary in the formation of a conductor for a high building, as the rope can be produced in extremely long lengths. It is applied much more readily, and with greater facility adapted to angles, and other forms and surfaces; it is easier fixed, and in much less time, at a considerably less cost; it possesses all the enumerated conditions of a perfect and sufficient electric conductor, with the advantage of the method of applying chains, without the objections which attend that form of conductor—it only then remains to compare it with the metal strip, or riband conductor. The disadvantages of the latter plan, and the justness of the practical objections made by the two talented gentlemen at the head of the building departments of her Majesty's navy, will be judged.

When the patent copper wire-rope, and the manner proposed for its application as a marine conductor, was referred to by the committee, Sir William Symonds stated, in evidence, that this plan was, in his opinion, preferable to any other—that its chief advantages were the immense difference of expense between it and the strap or riband plan. The spars are not injured, or in any way affected, by its application; and the electrical discharge would be led down to the water, instead of into, and through, the body of the vessel—and, therefore, remove all liability to explosion—it is, in fact, much superior to the riband plan, and obviates all the objections advanced against the common chain conductor. The cost of this plan does not exceed 60*l.* for a ship of the first-rate in the Royal navy. The plan proposed for applying the rope conductors was adopted, and then described. Immense numbers of these conductors have been applied to buildings of every kind; in the Royal and Foreign navies, and in the merchant marine, of this and other countries—and they have had the most severe and repeated tests, with uniform success.

[We are compelled to postpone some further particulars until our next Journal.]

STEAM NAVIGATION OF THE DANUBE AND BLACK SEA—THE "PRINCE METTERNICH."

It is now 17 years since the first company, for the promotion of steam navigation on the Danube, was brought into existence, and chartered by the Emperor of Austria; and in the succeeding year, their first vessel was completed—the *Francis the First*. On the 15th of December, 1837, the Austrian Government granted to Captain Andrews an exclusive privilege for his improvements in steam-boats—the end aimed at by our countryman, was to decrease the weight of the boats, and thereby enable them to run with more success on the waters of the Danube—the shallowness of that river forming the chief impediment to its utility as a means of water communication. In the year 1840, this company had 10 river-boats, and 10 sea-boats, with others constructing; and the passage at that time, from Vienna to Constantinople, was accomplished in 17 days. Two of their vessels, the *Sophia* and the *Stephan*, were at that period constructed of iron, and the power employed in their boats varied from 40 to 80 horses. Since that period, the completion of the "Lewis Canal," which connects the Rhine with the Danube, and the North Sea with the Black Sea, has opened a chain of inland navigation, which, for beauty and diversification of scenery, may challenge any for a comparison; and, in fact, it forms one of the most magnificent lines of internal navigation in the world. The *Prince Metternich*, the subject of the present article, is also intended for that part of the navigation of the Danube, between Galatz and Constantinople, and will be accompanied by the *Prussian Eagle*, a sister vessel to the *Metternich*. These vessels were constructed by Messrs. Ditchburn and Mare, of Blackwall; and their machinery by Messrs. Penn, of Greenwich. The *Prince Metternich*, as she now appears in the East India Docks, cannot but be admired by the most superficial observer; while to the nautical and scientific mind, the beauty of her lines, the judicious combination, by her constructors, of the river and the sea-going steam-boat in-one, cannot but afford subjects for contemplation; and we may well be proud of our countrymen, who have furnished so splendid an example of our superiority over all competition in this particular class of science.

The *Prince Metternich* is of 600 tons, and 200-horse power, fitted with Morgan's patent wheels; and on her first trial, at the measured knot in Long Reach, averaged 15·75 miles per hour. We should not have gone so fully into any statement of this vessel, but for the circumstances under which she has been produced, and which reflect great credit on the skill of our *private building-yards*, and afford subject matter for contemplation, in contrasting their productions with many of the absurdities that have of late emanated from our Government yards. We cannot afford space to chronicle the many failures that have taken place, and the subterfuges that have been resorted to, to make even our *Victoria and Albert* yacht passable; but would call on the Government to compel their *surveyor* to build only from contracts as stringent as those under which this vessel has been constructed. Capt. Major, who was deputed by the company at Vienna to proceed to England, to negociate for the above vessel, after an extensive inquiry, could find none of our builders who would undertake the construction of a vessel under the restrictions named in the contract, but Mr. Ditchburn. We have appended a portion of this contract, as a specimen of the *safe-side* system adopted by our Prussian friends, and cannot wonder that the terms were refused by so many:—

The said vessel to be 170 ft. between the perpendiculars, and 24 ft. 6 in. beam, or thereabouts; the lines or form to be left to the builders. Shall be fit for river and sea service as far as practicable, the same being intended for the navigation of the River Danube, and the mouths thereof, and the coasts of the Black Sea adjacent thereto; the said vessel shall be well and substantially built, agreeably to the specification hereunto attached. That the said vessel shall be fitted with a pair of the most improved oscillating marine steam-engines of the collective nominal power of 200 horses—the fitness, and goodness, and performance of which are hereby guaranteed by the said T. J. Ditchburn, &c.

That the said vessel with her engines, boilers filled with water, and in every other respect completed for sea-going, and having on board 120 tons of deadweight, shall not exceed or draw at any part more than 6 ft. of water, English measure, from the underside of the bottom of the vessel at the lowest part, and if the said vessel shall at any part with the above-named weights on board, draw more than 6 ft. of water, then the following deductions shall be made from the price to be paid to the said builder, &c., that is to say

For one inch, one hundred pounds.
For two inches, two hundred pounds.
For three inches, four hundred pounds.
For four inches, eight hundred pounds.
For five inches, one thousand six hundred pounds; and
For six inches, three thousand two hundred pounds; and,
should the said vessel draw at any part more than 6 ft. 6 in., measured as above mentioned, the purchasers shall have a right to return the said vessel with her engines to the said builders, Ditchburn and Mare, who agree to accept the same, and thereupon to return and repay to the said parties hereto of the first part all moneys which shall have been paid by the parties hereto, of the first part, or their agent, or agents, &c., together with interest thereon, from the time of payment of the said purchase money, or any part thereof, at the rate of 5 per cent.

That the speed of the said vessel when completely fitted and finished, as heretofore mentioned and referred to, and ready for immediate service, shall not be less than an average speed of 13 British miles per hour, as the said miles are measured in the River Thames. And the said builders, &c., further agree that, if the speed of the said vessel shall fall short or be less than 13 miles per hour, as above stipulated, the following deductions shall be made from the price to be paid for the said vessel; that is to say—

For one quarter of a mile, the sum of seven hundred and fifty pounds.
For half a mile, one thousand two hundred and fifty pounds.
For three-quarters of a mile, two thousand two hundred and fifty pounds.
For one mile, three thousand pounds.
And should the speed of the said vessel be less than 14 miles per hour, the purchasers shall be at liberty to return the said vessel and engines to the said builders, &c., who shall forthwith repay to the parties hereto, of the first part, or their agents, &c., all and every sum and sums of money paid, &c., with interest thereon, at the rate of 5 per cent. per annum.

It will be seen, from the foregoing, that the vessel in a first trial has averaged ·75 of a mile over the *stipulated speed*, and a decrease of 2·5 in. in the *stipulated draught*. We feel curious to know the advantages derived by Messrs. Ditchburn for the increased velocity and decreased draught, which, in a vessel of the tonnage of the foregoing, must allow something considerable for extra cargo; they would, it appears, have been mulcted in heavy penalties for the least failure—they ought to be as fully compensated for their increased success.

The *Recruit*, which has lately arrived at Portsmouth, is another instance of the certainty of success of our *private builders*—she having been built for Government on the conditions that, if she did not equal the best brig, constructed by the present Surveyor of the Navy, the Government should return her on their hands. It seems to us, therefore, that, although Government ought to use a due caution, and not waste the public money on all plans submitted to them; they ought also to see that that money is not expended in constructing vessels—many of which are very far inferior to those produced in the yards of private builders, and which is notoriously so the case at the present time—compel them, as public servants, to build from contracts as stringent as the foregoing; and then *merit and ability* will be the *sine qua non* for the surveyors of England's best bulwark—the Royal Navy. We should like to be enabled to lay before our readers full particulars of the engines and boilers of this vessel, which is stated to work to a pressure not exceeding 12 lbs. to the square inch, and may possibly return to the subject for that purpose.

CANAL AND RAILWAY AMALGAMATION.—A petition is in course of signature at Birmingham, admitting the superiority of railways over canals in some respects, but setting forth the great advantages of canals in the conveyance of bulky goods, inflammable articles, and other materials not requiring speed. The following is the prayer of the petition:—"Your petitioners, therefore, humbly pray your hon. House to institute an inquiry into the relative capabilities, operations, expenses, and charges of the railway and canal systems, with reference to the carriage of goods, and the comparative cost of the conveyance by railway of passengers and goods, to prevent powers conferred by Parliament being used under either system, to create a permanent monopoly of the carrying trade, and to secure for the public the full benefit of both systems, especially by preventing canals from coming under the control of railway companies."

SCOTCH RAILWAYS.—Friday was a gala day for the Edinburgh Railway world: in the town, the Duke of Atholl laid the foundation stone of the Edinburgh terminus of the Caledonian Railway, and was supported by the presence of the various mason lodges, and a posse of military, horse and foot. The portion of the line extending from Carlisle to Beattock is to be opened in August, and the whole probably in November. In the country the primal sod of the Edinburgh and Bathgate was uplifted—a lady and not a duke being there the presiding intelligence. The *Scotsman* says, Mrs. Stewart, of Binnis (in the absence of her husband, the chairman of the company), amidst much cheering and considerable merriment, applied the spade to the turf with such spirit that she soon succeeded in filling the little mahogany barrow, which was afterwards wheeled off to some distance by Mr. Hill. The Provost of Bathgate, Major Sharp, and several of the directors, subsequently performed the same operation; doffing their coats, handling the spade, and wheeling the loaded barrow with a dexterity that would have done credit to any "navvie." August, 1848, is named as the date of the completion of this line.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Wheal Mary Ann Mining Company—St. Blazey, at Six.
TUESDAY.....Great Wheal Martha Mining Company—offices, at One.
Caradon Consols Mining Company—at the mine, at Twelve.
Galvanised Iron Company—London Tavern, at Two.
Reliance Mutual Life Assurance Company—offices, at One.
WEDNESDAY...British Gas-Light Company—offices, at One.
Llynvi Iron Company - offices, at Twelve.
Independent Gas-Light and Coke Company—London Tavern, at One.
THURSDAY.....Western Gas-Light Company—offices, at One.
Ferranzabuloe Silver-Lead Mining Company—Anderton's Hotel, at Two.
FRIDAY.....Wheal Robins Mining Company—Webb's Hotel, Liskeard, at Three.
Blaenavon Iron and Coal Company—offices, at Two.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

EAST INDIAN RAILWAY.

The first general meeting of this company was held at the London Tavern, on Monday, the 12th instant.—Sir GEORGE LARPENT, Bart., in the chair.

The CHAIRMAN, after making a few observations, read the report of the directors, which stated that an interval of nearly two years had elapsed since the formation of the company; and, no intermediate communication having been made to the shareholders, it now became necessary to do so, and to obtain their sanction to measures which it might henceforth be deemed expedient to adopt. It adverted to an application made in May, 1845, to the East India Company respecting their proposed railway, when the latter sent out Mr. Simms, to India, and by the same mail the directors of this company sent out their managing director (Mr. M. Stephenson) and three engineers to Bengal, who surveyed the whole line from Calcutta to Delhi, and completed the surveys by April, 1846. Mr. Simms and the two Government engineers, in their report on the part of the Government, admitted in the fullest manner the practicability of constructing and working railways in India, and recommended the line from Calcutta to the north-west provinces of India as the line most important to the Government. In consequence of this report, and of the favourable information received from the managing director of the company and his staff of engineers, no time was lost in proposing terms to the East India Company to construct the railroad selected by them. It was not until January, 1847, that a reply was received from the East India Company, when the terms and conditions upon which support would be extended were communicated. They admitted the great importance of connecting the seat of Government with the north-west provinces, and stated that the line for the first railway in India should be that from Calcutta to Delhi, through Mirzapore; that they were prepared to sanction the construction of two sections of this line, one in the lower, and the other in the upper provinces; to grant the land for the railway free of all cost for 99 years; to advance interest at the rate of 4 per cent. per annum for 15 years on a capital not exceeding 3,000,000*l.*, interest to commence from the date of the contract to that effect, and to be reimbursed when the profits of the railway should exceed 4 per cent. In reply to these conditions the directors submitted various modifications, but to which the East India Company declined to accede. The report then referred to the favourable opinion expressed by the Governor-General of India on railway communication. From the statistical information obtained in India by the managing director, it appeared that the maximum cost for a double line of railway from Calcutta to Delhi would not exceed an average of 15,000*l.* per mile; although the traffic estimates were computed for a traffic considerably less than that actually existing, yet they showed that, without an increase of the existing traffic, a large dividend might be expected. This estimate did not include any charge for the transport of the Government mails, troops, &c. The directors submitted, therefore, that the proprietors should proceed at once to constitute the company by deed of settlement, in the usual manner, and place the company in a position to avail itself of the terms proposed by the East India Company, or such favourable modifications thereof as might ultimately be obtained. A sum of 5*s.* per share had been subscribed to meet the expenses necessary to ascertain the practicability of introducing railroads into India: 900 miles of country had been surveyed by engineers sent specially to India for that purpose; sections, maps, and plans of the whole line provided; all preliminary, legal and other expenses defrayed; and the gross sum expended amounted only to 22,424*l.* The directors recommended an amalgamation with the Great Western of Bengal Railway Company (Calcutta to Rajmahul) on equal terms, the expenses of the two companies to be equitably adjusted, three directors of the Great Western of Bengal Company to join the consolidated board. Should the terms and conditions of the East India Company be acceded to, they proposed to extend the calls that might be required over as long a period of time as might be practicable, and to construct, in the first instance, only two sections of the line, strictly limiting the outlay to the sum of 3,000,000*l.* on which the interest of 4 per cent was guaranteed. The cash received on 167,240 shares amounted to 47,554*l.*; sundries, 25*l.*—total, 47,579*l.* Expenditure, 22,424*l.*; cash in hand, 24,137*l.*; sundries, valued at 1017*l.*; total assets, 25,154*l.* The engineer's report, which the chairman also read, stated that by this line the direction of the traffic through the great valley of the Ganges will be preserved. That the total cost for a double line from Calcutta to Delhi might be safely taken at from 15,000,000*l.* to 15,500,000*l.* The average cost will, therefore, be, including working stock, at the rate of 17,000*l.* per mile. In estimating the cost of construction, the engineers have divided the line into five sections—viz., from Calcutta to Hooghly, 30 miles, estimated cost, 510,000*l.*; from Hooghly to a distance of 270 miles, 5,530,000*l.*; thence to Allahabad, 175 miles, 2,150,000*l.*; thence to Cawnpore, 125 miles, 1,875,000*l.*; thence to Delhi, 970 miles, 3,780,000*l.*; including 30 miles of deviations, 450,000*l.*—total, 900 miles, costing 15,295,000*l.* Out of the 900 miles, 500 miles are stated to present but few engineering difficulties, 200 miles present works of an ordinary class, and 200 miles more contain considerable earthworks and tunnels. For 700 miles the line is stated to be nearly level; on the remaining 200 miles the country is hilly and much broken, requiring gradients of 1 in 200, and 1 in 100, and in one case a succession of inclined planes of 1 in 60 for seven miles; but it is expected that the severity of the latter gradients may be greatly modified by making deviations. It is proposed at first to construct the line from Calcutta in the direction of Burdwan, and from Allahabad to Cawnpore; these sections involve comparatively few works difficult of construction. It is further stated, that when the line is completed it will pass near coal-fields, which will be of considerable importance. From the traffic estimates, it appears that the existing goods traffic between Calcutta and Mirzapore, is 2,226,359 tons, the estimated traffic of which for the railway is 1,500,000 tons; between Mirzapore and Delhi, existing traffic, 1,051,881 tons—estimated, 750,000 tons; for passengers between the former places, 570,000—estimated, 250,000; between the latter places, existing traffic, 446,851 passengers—while the number of passengers estimated to travel on the railway is but 200,000. The estimated revenue on the through line from Calcutta to Delhi is for goods, at the rate of 1*d.* per ton per mile, 5,625,000*l.*; for passengers, at 1*d.* per mile each, 468,750*l.* The working expenses are estimated at 3,221,210*l.*; and the profit at 18¾ per cent. For the portion of the line between Calcutta and Mirzapore the profit is estimated at 12½ per cent., and for that portion between Mirzapore and Delhi at the rate of 11 per cent. The chairman observed, that the preliminary expenses did not exceed 2*s.* 6*d.* per share, for which he thought they deserved credit. He spoke in the highest terms of the liberality and statesman-like manner in which the East India directors discussed the advantages of the proposed undertaking, and said they seemed to be fully aware of the value of railway communication in India. He mentioned that the engineers had allowed 50 per cent. in their estimates for working expenses, and 10 per cent. for the depreciation of stock from the effects of climate. He stated, that when steam-boats were first introduced on the Ganges, the demand increased far beyond what the increased facilities and accommodation could afford. From that circumstance he inferred, that when railroads were established, no one at present could conceive what the effect would be in augmenting the traffic. He said, that the present slow rate of travelling crippled the trade of the country more than any one could imagine; there was nothing, therefore, to fear from competition with railways in India. He said, that for the two first sections of the line they would require only to call up 15*l.* per share; that for 12 months between 1847 and 1848 they would not require more than 1*l.* per share; and that calls for the remainder of the 15*l.* would be spread over three or four years. Provided the condition of depositing 500,000*l.* with the East India Company for the railroad should be modified, the call of 1*l.* per share might be divided into two payments of 10*s.* each. He hoped that they would be successful in modifying the terms with the East India Company; if not, with regard to the interest of 4 per cent., he suggested that 1 per cent. might be taken out of the capital, so as to enable them to allow 5 per cent. on the calls, and thus meet the present state of the money-market. He impressed on the shareholders the necessity of subscribing as soon as possible to the deed of settlement, which now lay for signature.

Resolutions were passed adopting the report, and expressing the highest approbation of the proceedings of the directors, and the fullest confidence in their future management.

GREAT WESTERN OF BENGAL RAILWAY.

A general meeting of shareholders was held at the London Tavern, on Wednesday, the 14th inst. Major-General M'LEOD in the chair.

After the usual preliminaries, the report of the directors was read, which stated that the original object of the company was the formation of a line of railway to connect Calcutta with that part of the Ganges navigation, where it becomes both circuitous and dangerous. Rajamahal was fixed upon (Government had previously entertained the project of a canal for three-fourths of the line; a survey and report were made by engineers). On the 14th of April, 1845, the committee was registered as the "Calcutta and Ganges Grand Junction Railway Company;" it was subsequently resolved to extend the line to Patna, and the company was re-registered on the 23d of April, 1845, as the "Great Western of Bengal Railway Company." On the 15th of April, 1845, the promoters intimated their views and intentions to the Court of Directors of the East India Company; on the 6th of May they received an answer, stating the measures to be adopted by Government, regarding the introduction of railroads into India. At a meeting, held at the company's offices, in Leadenhall-street, on the 5th of July, 1845, a committee of management was elected, who took measures to carry on the business of the company. Of 40,000 shares allotted in this country, 36,000 were paid upon; of 40,000 sent out to India (30,000 for Calcutta, and 10,000 each for Bombay and Madras), 10,222 were allotted, and 4708 paid upon. A meeting held at the London Tavern, Nov. 7, 1845, sanctioned the appointment of a Calcutta committee, with Dr. John Grant for chairman. The 4000 shares forfeited in this country were allotted to scripholders, in the proportion of one to ten. The East India Company were again memorialised, on Dec. 4, 1845, and an answer received on the 24th of the same month. A correspondence was also commenced with the local Government in Calcutta. On Jan. 23, 1846, a memorial was presented to the Court, respecting the company's claims to the line from Calcutta to Rajamahal, and a new prospectus was published. The Rajamahal line was favourably noticed in the report of the commission appointed by the Bengal Government. Instructions were given by the directors to the company's solicitor, to give notice of application to Parliament for a bill. The directors came to the resolution, that the terms and conditions upon which the East India Company would extend support to the introduction of railroads into India, ought to be accepted. Having resolved to amalgamate with the East Indian Railway Company, intimation to that effect was given to the chairman of the East India Company on the 3d of March, 1847. A map and section of the Rajamahal line has been received from Mr. Greaves, an engineer in Calcutta, and a full report on the entire line by that gentleman is expected by an early mail from India. The total expenditure in this country and India since the commencement, has been 7044*l.* 0*s.* 8*d.*; the balance in hand is 4276*l.* 14*s.* 10*d.* The terms of amalgamation with the East Indian Railway Company were then stated—they are, of course, the same as those announced to the meeting of that company last Monday.—The CHAIRMAN said, no doubt the proprietors had read the able report and statements of Sir G. Larpent, at the meeting of the East Indian Railway Company, which was a much better statement than they could produce to this meeting. He would just say that, up to November last, they, believing they would not be noticed by the Court of Directors of the East India Company, had commenced making arrangements for winding up the company, when they very suddenly received overtures from the East Indian Railway Company for an amalgamation. As to the advantage of this, there was no doubt whatever, the directors thinking it the best thing they could do for the shareholders. He hoped they would approve of what the directors had done, by giving their consent to the passing of the resolution for such amalgamation. He was happy to say that the whole expenditure hitherto did not amount to more than 3*s.* 3*d.* In conclusion, he moved the adoption of the report, which was seconded by Mr. R. H. KENNEDY, and passed unanimously.

The resolution for the amalgamation with the East Indian Railway Company was proposed by Mr. WHITE, who said, he had observed such competency and consistency in the two boards from the beginning, that he should have double confidence in seeing these gentlemen associated for carrying out this grand undertaking.—Mr. BAKER seconded the motion, which was passed unanimously.

EAST INDIAN RAILWAY.

In another column, we have given the particulars of a meeting, held on Monday last, from which it will be seen that the problem of the practicability of railways in India has been solved in the affirmative; and that, as we anticipated, it has been decided that this company shall at once proceed with their line. The following statistics, from a series of tables published for the use of the directors, may prove interesting, and will tend to explain the chairman's speech. We find the estimated cost of construction for a double line from Calcutta through Mirzapore to Delhi, 900 miles (including 2000*l.* per mile for locomotive engine carrying stock, &c.), at 17,000*l.* per mile, to be 15,300,000*l.* The line is divided into halves—the lower half, from Calcutta to Mirzapore, being estimated at 22,000*l.* per mile, and the upper half, from Mirzapore to Delhi, at 12,000*l.* The existing traffic on the lower half of the line is ascertained to be 2,226,359 tons of merchandise and produce, and the number of passengers of all descriptions, 560,684; and on the upper half, 1,051,881 tons of goods, and 446,851 passengers. Unlike the usual plan of taking traffic in this country by doubling the existing traffic, the company have made their estimates on only 1,500,000 tons of goods, and 250,000 passengers on the lower half, 750,000 tons of goods and 200,000 passengers on the upper half; and on this moderate computation, at an average charge not exceeding 1*d.* per ton per mile for goods, and ¾*d.* per mile for passengers, it is found that the receipts on the through line would be 6,093,750*l.*—3,046,875 on the lower half, and 1,593,750*l.* on the upper half; while the estimated working expenses are, on the through line 1,691,310*l.*, on the lower half 846,102*l.*, and on the upper half 461,733*l.*, which would leave a disposable balance for depreciation and dividend of 4,402,440*l.* on the through line, 2,200,772*l.* on the lower half, and 1,132,017*l.* on the upper half; and after deducting 10 per cent. for depreciation of stock, there remains on the through line a profit of 2,872,540*l.*, or 18¾ per cent., on the lower half of the line of 1,210,773*l.*, or 12½ per cent., and on the upper part of 592,017*l.*, or 11 per cent.—so that whether the company at once proceeds to make the whole line, or takes either of the portions, it will be seen that a dividend exceeding anything that has been or can be paid in this country will be realised, and on the through line it will be double what is usually receivable; and it may here be observed, that in making these estimates, founded as they are on official returns, no allowance has been made for mails or treasure. In making the various calculations the distance from Calcutta to Delhi is taken at 900 miles; and we find that the present cost of passengers is, by dak, with accommodation only for luggage, sufficient to make the necessary changes of garment on the road, 1*s.* per mile, or 45*l.*; by palkee, 8*d.* per mile, or 30*l.*; by horse, *i. e.*, if you buy a horse in Calcutta, and afterwards sell it in Delhi, irrespective of its keep—1·12*d.* per mile, 4*l.* 4*s.*; and on foot, for food, ferries, tolls, &c., 0·533*d.* per mile, or 1*l.* 17*s.* 6*d.*; by steamers, which can only go to Allahabad, 519 miles, the cost is 1*s.* 6*d.* per mile, 38*l.* 10*s.*; and by river boats to Delhi, at 6*d.* per mile, 2*l.* 5*s.*; while the journey will occupy, by dak or palkee, 15 days and nights, by steamer 30, horse 75, river-boats 36, and walking 75. By railway, it is proposed to charge 1*d.* per mile for first-class (or dak passengers, now paying 45*l.*), which will give 3*l.* 15*s.*; by second-class (or palkee passengers, now paying 38*l.*), ¾*d.* per mile, or 2*l.* 16*s.* 3*d.*; by third-class (or horse passenger, now paying 4*l.* 4*s.*), ½*d.* per mile, 1*l.* 17*s.* 6*d.*; and by the fourth-class (the present walking passengers now pay 1*l.* 17*s.* 6*d.*), at ¼*d.* per mile, or 18*s.* 9*d.*; and, moreover, the whole distance will be performed in 36 hours as against 15 and 75 days and nights respectively. Looking at these results, we think that no person can, seeing the saving of time and money that will be effected, doubt that the company estimated their traffic very far less than may be fairly expected when they took less than that which at present exists. Then, with regard to goods, we find it almost equally favourable, the present cost of conveyance being by steamer, 9*l.* 10*s.* per ton; by river-boats, 5*l.*; and by land, 15*l.* While they occupy respectively 30, 36, and 90 days—while the railway will convey them in 36 hours for 3*l.* 15*s.* The number of square miles of the districts through which the line will pass from Calcutta to Delhi, is 97,539; the population, 49,920,000; and the revenue paid 3,765,500*l.*

ON THE IMPORTANCE OF LIFE ASSURANCE.

Extracted from AN ESSAY ON LIFE ASSURANCE, in the "Mutual Life Assurance Society's Almanac, for 1847." By PETER HARDY, Esq., F.R.S.

In the *Mining Journal* of the 13th March, we gave an extract from this interesting essay, including the first chapter entire; and shall now conclude by giving copious extracts from the remainder. Chapter II. is "On the Nature and Application of the Scheme of Life Assurance."

"The operations of a Life Assurance Society, when established on what may be considered the soundest and simplest principle—namely, that of *mutuality*—may be fairly likened, in all their leading and essential features, to the operations of an extensive savings bank, which receives from its depositors contributions of various amounts; which contributions entitle the members, at settled periods, to withdraw from the funds of the institution proportionate larger sums. Life assurance is essentially mutual in its principle, and dependent on mutuality for its security and existence; and however cleverly this feature may be disguised under the imposing titles of subscribed capital and responsible shareholders, it is on this circumstance alone that the security of every assurer depends, in whatever office he may have purchased the promise of patrimony for his children."

Savings banks assimilate nearly to life assurances; but if the depositor's resolution to invest fail him, or habits of expense induce him to withdraw his funds, or he die early, his scanty savings will form a very insufficient fund for his family. But let him be willing to forego the present power over his money, in consideration of being provided with a larger sum at his death, and we have in a single view the whole principle of life assurance.

"A simple and familiar example may, we think, be found to illustrate this. An hundred, or a thousand, or any other number of persons of the age of 30 years, join together, and contribute each a single sum of 10*l.* to a common friendly fund, from which they each intend to derive the benefit of a life assurance, so far as the same can be afforded. Suppose these persons to live and die exactly in accordance with the scale of mortality known by the name of the Northampton Table (which assumes 96 years to be the extremity of human life); and suppose money to yield during the continuance of all or any of their lives an uniform rate of interest of 3*l.* per cent. per annum. These assumptions being established, the payment of a sum of 10*l.* by an individual, aged 30, to any society which assured lives on the Northampton Table, would secure to him the sum of about 20*l.* 18*s.*, by a policy of assurance on his life—so that every member of our supposed friendly fund would be entitled to bequeath to his family the sum of 20*l.* 18*s.*, in consideration of his having paid down, for the use of the institution, the sum of 10*l.* It must be apparent to the reader, that if any one of these members or contributors were to die in the year following his admission into this fund, his family would gain considerably by his death, as his contribution, if laid out at interest, would only have produced him an increase of 6*s.* in the time; whereas, on the other hand, if the same individual had lived to be the last survivor of his class, or, in other words, if he had attained the age of 96 years, his original contribution of 10*l.* would have amounted, by the accumulation of interest, during the 66 remaining years of his life, to upwards of 70*l.* And in such case, his family would be losers by his length of life." * * * * *

"There is another species of life assurance, by means of which the gains and losses of individuals subscribing to an assurance fund, such as we have attempted to describe, are in a great measure equalised. The member, whose life drops soon after the assurance has been effected, does not gain so greatly as in the former instance; while the long liver, on the other hand, does not lose so much. This equalization is effected by means of a scheme for increasing the amount assured year by year, the assurer paying an uniform and annual premium. An example, showing the effect of such a mode of assuring life, may not be misplaced if we introduce it here. By the payment of an annual premium of about 54*l.* to a society which effects assurances of such a description, a young man of about 30 years of age, may secure a policy for 100*l.*, which policy the society will engage to augment every year by an additional 100*l.*; so that although, during the first few years of his assurance, he does not secure for his premium so large a return as he might have procured had he assured his life on the ordinary plan, yet in the event of his attaining to old age, and living to pay to the society as many as 50 premiums (a circumstance which would have been greatly to his loss on the former plan), he would have secured for himself a policy for 5,000*l.* by the payment of a premium which would not have secured much more than 2000*l.*, had he originally effected an absolute policy on his life. A peculiarity—we may almost say, a marked advantage—attendant on this plan is, that the society which grants such an assurance, can afford at any time to return all the premiums which have been paid, on the party engaging to relinquish his claim to the assurance.

"One of the principal objections, which have been urged against the scheme of life assurance, as sinking and destroying income and personal capital, is thus avoided, as the society may be regarded by the member in the light of his banker, for the entire amount of premiums which he has paid."

Chapter III. treats on the difference which exists in the plans and schemes of life assurance societies, which may be divided into three classes—"Proprietary," "Mixed," and "Mutual,"—and clearly shows the superiority of the latter, the business being entirely governed by the assured, every individual, however small his interest, having a voice in the management of the company's affairs.

"Mutual societies are constituted on the fundamental principles of life assurance. The scheme of these societies is at once so simple and so convincing, that it requires but little explanation to make it apparent to every understanding. Certain rates of contribution are determined on in general, from motives of caution, rather higher than the expected mortality will require. At certain intervals—either every year, or every three, five, seven, or ten years, as the case may be—the condition of the society is carefully ascertained; and if the rate of contribution hitherto exacted be found, upon examination, to be too high, the surplus, or its equivalent amount of additional assurance, is unreservedly given to those who created it. This return is made, according to the practice of some societies, by a reduction of the future premium of assurance, or, according to the practice of others, by an addition to the sum assured.

"In thus expressing our opinion in favour of the third class, or mutual societies, we would wish not to be understood as animadverting on the other two classes of societies, nor as declaring that no other than a mutual society is either safe or honourable; far from it. Although, in every point of view, we give our decided preference to the plans of a mutual society, and consider them, and them only, as realising all the legitimate objects of life assurance, yet we are happily enabled to give our unqualified praise to the honourable and strict integrity with which many of the proprietary societies are conducted, although we may not equally admire their plans. Popular opinion is now fast beginning to acknowledge the advantages of mutuality over other schemes.

"The older proprietary establishments are, one by one, giving way to the necessity of a change, and are unwillingly admitting their assurers to a participation of profits, glad once more, on any terms, to direct into their almost neglected channels, the stream of popularity which was fast flowing from them. But it is doubtful how long this partial concession will satisfy a public, every day becoming better acquainted with the real merits of institutions of this kind. Few, we are inclined to think, will rest satisfied with a moiety, when they begin to consider themselves entitled to the whole. We have no doubt, and no hesitation in expressing such an opinion, that a very few years will see only two classes of societies for life assurance left to contend for the public patronage—viz.: MUTUAL SOCIETIES, and LAW PROPRIETARY OFFICES; in the first class will be found all who, on principles of frugality, seek a patrimony for their children; and in the second class will be found all those who are driven by necessity, law, or the exigencies of life, into the purchase of assurances as legal and commercial bargains."

NORTH BRITISH RAILWAY.—Capt. Coddington and Mr. Walker, appointed by the railway commissioners to inquire into the state of the North British Railway, and satisfy them of their security, have just reported the result of their joint survey upon the state of the works, which suffered so much from the floods in February. The report describes minutely the main features of the line, and the condition of the various contracts, and refers at the general conclusion, that but few additions to those which the company have in contemplation, or are now executing, are required for the public security, the principal being the breakwater and footing to the embankment at Lamberton, and the bridge at Portobello. The line is described as in every way suitable for a public railway of great traffic.

Mining Correspondence.

ENGLISH MINES.

ALBERT ADVENTURE.—This mine is situate in the parish of Gwinear, in Cornwall, half a mile north-east from Alfred Consols. Some years since, a party of Cornish and Devon adventurers commenced operations, under the name of East Wheal Alfred Mine. They discovered several lodes and branches which were considered to be of sufficient promise to induce them to sink an engine-shaft, which was done to about 18 fms.; and materials were brought to the spot for erecting an engine house, and other preliminary work done, to the amount of nearly 2000*l.*, when, owing to various disagreements, the company split, and the concern was abandoned—the work already done will be available to the present company. The lodes discovered by the former party being favourably represented, the present adventurers have taken the sett, cleared shafts, levels, &c., &c., so as to get the mine inspected, and it is now thought that the lodes already discovered, will warrant a further prosecution; a cross-cut is now being driven south, to intersect another lode, which is highly spoken of; and it is desirable to see this lode, before deciding where to put up an engine, that shall command all the lodes and branches. The south lode already seen, is from 2 to 3 ft. wide, with a rapid north inclination; this lode has a very promising appearance, being composed of mundic, lead, and soft spar, with occasional spots of copper ore. The north lode is from 20 in. to 2 ft. wide underlaying south; this lode is composed of lead, jack, mundic, and some copper ore. Between these two lodes, which in depth will meet, are other smaller lodes, or branches, underlaying in the same direction as the south lode, but not so rapid, which are expected to serve as feeders, and improve the main lodes. In addition to the sett now spoken of, the adventurers have succeeded in securing an extension of the ground east—making, in all, a length on the run of the lodes of three-quarters of a mile. I now consider the concern a desirable speculation.—JOHN PAULL: *Hayle, April* 13.

BARRISTOWN.—We have resumed driving the 28 fm. level end west with four men. The lode in the 18 fm. level end, west of flat-rod shaft, is pretty much the same as last reported on, worth about 16*l.* per fm.; the rise behind this end is pretty much the same. The lode in the 12 fm. level end is at present worth about 8*l.* to 10*l.* per fm.; the back behind this end is worth about 12*l.* per fm. At the lode in south cross-cut, 18 fm. level, the stopes east and west of winze over, are rather improved, worth from 16*l.* to 18*l.* per fm.; in the winze sinking on course of this lode, perpendicularly under the 18 fm. level, it is from 18 in. to 2 ft. wide, producing good saving work—and I have no doubt the ground, when opened on, will be found as good as the stopes over; if it should continue down in its present course, it will meet with the main slide at the 40 fm. level. We should be shipping to-day, but for the weather. There is no change in any other part of our operations. The vessel is here, waiting her cargo, and the only delay is the weather.—T. ANGOVE: April 8.

BEDFORD UNITED.—At Wheal Marquis, in the 80 fm. level east, we are expecting to cut the lode daily; in the bottom of this level we are still breaking good work; the sumpmen will commence sinking the sump winze by the end of the present week. There has been no lode taken down in the 70 fm. level east. The ground in the 58 fm. level east is more favourable for driving, as also is the lode a little more kindly than for some time past. At Liscombe, there has been no lode taken down in the adit level east; in the rise in the level, the lode is 2½ ft. wide, producing fine stones of copper ore—very kindly. The south engine-shaft has been sunk 3 ft. under the plat since last week—lode 3 ft. wide, producing good stones of ore; in the adit level east, the lode is 18 in. wide—orey, but not rich.—J. PHILLIPS: April 13.

COOK'S KITCHEN.—In Chapple's lode, in the engine-shaft, which is now about 3 fms. under the 180 fm. level, the lode is large and kindly, producing some tin, but not rich. In the 180 fm. level east, the part of the lode on which we are driving is about 4 ft. wide, and worth from 4*l.* to 6*l.* per fm. In the 170 fm level east the lode is large and kindly, but not producing so much tin as when last reported. The winze, under the 148 fm. level west, is down about 8 to 9 fms., where the flookan part, on which we are sinking, is poor. In the rise, in the back of the 160 fm. level east, against new east shaft, the lode is much the same as when last reported. In the 148 fm. level east we are engaged in cutting a plat, preparatory to sinking the new east shaft. The 92 fm. level west, on Eudy's lode, is not looking so well as when last reported. In the 80 fm. level, driving south from North Tincroft lode, we have not yet cut the other part of the lode; in the tribute pitches we are breaking a large quantity of stuff, of moderately good quality. On Saturday last, we sent to the smelting-house 20 tons 5 cwts. 2 qrs. 6 lbs. of black tin, which, with the previous sale of 15 tons 17 cwts. 2 qrs. 27 lbs., makes 36 tons 3 cwts. 1 qr. 5 lbs. for the month, realising 1880*l.* 10*s.* 10*d.*—J. VIVIAN: April 12.

CUBERT SILVER-LEAD.—In the 35 fm. level, within the last week, we have cut through the middle lode, and find it to be 2 ft. wide, composed of soft spar, mundic, and lead—a very promising lode indeed; the men that holed Henry's shaft are put to drive this cross-cut on, to cut Trebiskin lode, which we expect is 8 or 10 ft. more to drive; the sumpmen are employed in this level in cutting trip-plat, which must be done before we can sink under the 35 fm. level. In the 25 fm. level east, the lode is 18 in. wide, 6 in. of which is very good for silver-lead ore—the same may be said of the west end. In the 15 fm. level east, the lode is 2 ft. wide, 4 or 6 in. of which is very good for silver-lead. We have nothing new in our pitches.—F. R. ROWE: April 9.

DEAN PRIOR AND BUCKFASTLEIGH.—In the past week, very little has been done as regards underground operations, the men being engaged in widening the leat, as reported in my last; we have, however, resumed the underground workings (yesterday), and I hope to report you of our favourable progress. In the rise, back of the 50 fm. level, the lode is still looking well; in the other points there is no alteration.—H. CHOAKE: April 13.

DEVON AND COURTENAY CONSOLS.—I beg to inform you, that the 30 fm. cross-cut, at engine-shaft, is in 16 ft.; there is a great deal of spar in the end, which I expected would be the case, as we had spar in the shaft before we cut the branch. The lode in deep adit (on south lode) is 2½ ft. wide, composed of spar and mundic, with some ore. The lode in shallow adit (on north lode) is 2 ft wide, composed of spar, lead ore, and can, with some copper ore—looking promising. The lode in flat-rod shaft (on north lode) is 4 ft. wide; the leader of ore is not looking so good as it was last week, there being more mundic mixed with it—the lode altogether is looking very promising.—JOHN JOB: April 13.

EAST CROWNDALE.—With great pleasure I beg to inform you, that in the past week, in clearing up the old men's workings, on the north lode, at Rix Hill, we have discovered a rich bunch of tin, about 9 ft. below the surface; the lode is about 20 in. wide, composed on the north side of a soft sugary spar, and on the south side a beautiful green peach, with excellent leaders and bunches of tin through it; so far as we have seen, this appears to be a most productive piece of ground, the old men having worked this and the south lode on the backs for hundreds of fathoms in length; and the great quantity of work done, and the principal part of the lode broken being carried off the ground, evidently shows that a great quantity of tin has been raised in this place; we are now proceeding to sink a whim-shaft on the course of the lode, which will take the back of our adit level now in the course of driving to cut the lodes about 10 fms. deeper than the old men's bottom; should this bunch of tin hold down, which I have not the least doubt of, from the regularity and strength of the lode, we shall soon get into a fair position to break large quantities of tin, the adit level being extended towards the lode upwards of 20 fms. The ground in our engine-shaft continues just the same as when reported upon last week.—S. PAULL: April 10.

EAST TAMAR CONSOLS.—At Whitsun, Hitchins's engine-shaft is sunk 20 ft. under the 60 fm. level; the lode in the 60 fm. level north is 15 in. wide, work of a good quality; the lode in the 60 fm. level south is 18 in. wide, good saving work. The lode in the 54 fm. level north is 14 in. wide, fluor-spar, and silver-lead ore; the lode in the 54 fm. level south is 20 in. wide, capel, mundic, and lead; we have cleared south from Gourd's shaft to whole ground, where the lode is 20 in. wide, saving work. At Furzehill, we are disappointed in not having our casting ready for the sinking-lift in time, but we have put the shaft under, to drive the 46 fm. level north, in the meantime—after which, we shall recommence sinking; the lode in the 46 fm. level north and south is 20 in. wide, fluor-spar and ore. The lode in the 38 fm. level north is 14 in. wide, saving work; the lode in the 38 fm. level south is 15 in. wide, work of good quality. In addition to our silver-lead sampling, we have now ready for the market 5 tons of copper ore.—B. ROBINS: April 13.

GREAT WHEAL MARTHA.—Since my last report to you of these mines, we have driven the cross-cut 2 fms., and now have the ground more favourable for driving; within 3 fms. of the bottom of the engine-shaft, we cut a branch of spar and jack dipping towards the lode; we have intersected the same branch, in the cross-cut, 9 ft. from the shaft, about 1 in. big, of rich copper ore; these branches generally make considerable improvement, when they drop into the lode. We have four men removing footways, and clearing shaft, previous to fixing plunger-lifts; and I am in hopes we shall have some part of the castings on the mine by the end of another week. At Sherrall's Bottom, we have driven 3 fms. on the lode, which is about 4 ft. big, composed of jack and capel—ground harder; and, owing to the late rains, a great deal of water is at present issuing from the end. When the weather is more favourable, we propose putting the men to sink on the course of the lode about 100 fms. further west.—T. PENALUNA: April 10.

GUNNIS LAKE.—At Chilsworthy, Bailey's engine-shaft is 7 fms. under the 12 fm. level—lode 2½ ft. wide, capel, spar, gossan, and ore; in the 12 fm. level west the lode is rather disordered—this end is now fast approaching the great cross-course; in the 12 fm. level east, no alteration.—W. RICHARDS.

HAWKMOOR.—I beg to inform you, that the lode in the 15 fm. level, east of Hitchins's shaft, is about 2½ ft. wide, producing good stones of copper ore—a kindly lode.—P. RICHARDS: April 13.

RANGOON.—We still continue to drive the 32 fm. level, east of engine-shaft, on Stamp's-4 lode; the lode is 20 in. wide, with a small portion of mundic, with some ore—there is some little improvement since my last. We still continue also to work the back of the 22 fm. level on the same terms as before: this back will produce about 1½ ton of ore to the fm. We have weighed off the last parcel of ore sold, 48 tons 1 cwt. 2 qrs.—Z. Williams: April 12.

HINGSTON DOWN CONSOLS.—The sumpmen in the north shaft are getting on well with cutting down and completing same below the 20 fm. level; the lode in the 20 fm. level west is 2½ ft. wide, producing good work; the pitch in the back of this level, west of the shaft, is also productive of very satisfactory returns; and we only wait for completion of the machinery, now in course of erection, to enable us to bring about considerable quantities of good quality tin ore, for bringing back our outlay, and making regular monthly profit.—W. Richards: April 13.

HOLMBUSH.—The ground and the branches in the diagonal shaft, sinking below the 120 fm. level, is much the same as last reported on. The lode in the 120 fm. level, west of the great cross-course, is again disordered by cross-courses, the same as we had in the winze below the 110; a communication being now made to this winze, which has ventilated the level to afford us plenty of air, for the further development of the lode westward; the lode in the 120 fm. level, east of Hitchins's shaft (on the north part), is in two branches, 3 ft. apart, each branch is 6 in. wide, producing stones of rich yellow ore. The lode in 110 fm. level, east of Hitchins's shaft (on the south part), is without alteration; the lode in the 110 fm. level south is 2 ft. wide, composed of soft spar, and stones of rich silver-lead, opening ground that will set on tribute. The lode in the rise, above the 100 fm. level, is 2½ ft. wide, composed of spar, flookan, and stones of lead (saving work); the lode in the 100 fm. level south is 4 ft. wide, composed of spar, and lead, worth 9*l.* per fm. The lode in the 90 fm. level south is 20 in. wide, composed principally of flookan, with spots of lead—there is nothing new in the tribute department.—W. Lean: April 13.

ILAM.—The end, driving west of Robins's shaft, in the 67 fm. level, is mainly composed of churt. I think we are near approaching Brown's lode, which intersects Robins's lode at nearly right angles, as there is some water coming out the end; the churt is here considered a favourable indication for copper. The end going east is the same as when last reported.—J. Sprague: April 12.——I am happy to apprise you, that the branch we cut in the end north of Robins's lode, has formed a junction with the lode we are driving on, composed chiefly of spar and gossan, intermixed with copper—a very promising lode altogether. Another favourable prospect has opened in the 67 fm. level, west of Robins's shaft, where I have this morning broke some good stones of copper out of the lode; it appears, by the water coming from the end, that we cannot be far from Brown's lode. The 67 fm. level, east of the lode, is small and poor. I cannot see that the water in Brown's shaft has either sunk or risen since my last.—James Sprague: April 14.

KIRKCUDBRIGHTSHIRE.—Sinking Stewart's shaft, under the 30 fathom level, the lode is 4 ft. wide, with a little lead in it, but poor. The lode in the end, driving west in the 30 fm. level, is 5 ft. wide, producing 1 ton of lead per fm.; the stopes in roof of this level are not looking so well as last reported, worth from 5*l.* to 6*l.* per fm.; having an increased length of lead ground laid open in this level, we have engaged four additional men in the backs; the lode in the end, driving east in same level, is disordered, and, consequently, poor; the stopes in roof of this level continue to look well, worth 12*l.* per fm. The lode in the end, driving east in the 20 fm. level, is 3 ft. wide, poor, but with indications of change; the stopes in east end of winze, and in roof of the 20 fm. level, having become poor, are suspended. In sinking Keith's shaft we find the fils (loose gravel) is deep, and surface water very abundant; we have, therefore, found it necessary to drive a shallow level to let off this water; it is very probable the water will be very little under the surface of the rock; we have also commenced costeaning east of eastern shaft. In driving the adit end east I cannot speak of any further improvement since my last. The lead shipped from this mine, on 3d inst., was sold in the Holywell market, on the 8th, as follows—viz.: 23 tons at 11*l.* 7s. 6d. per ton, 7 tons at 6*l.* 6s. per ton.—J. Buzzo: April 10.——I have great pleasure in informing you, that we have this day discovered a course of solid lead, from 6 to 8 in. wide—say 2½ tons per fm.—intersecting the lode in the end driving west in the 30 fm. level, on the north side, on an angle of about 30° from the direction of the original lode. When this new lode, or caunter, approaches the south wall, and forms a junction with our original ore course, we anticipate far greater results. We are now as busy as possible, stripping it back, with a view to drive back northeast on its direction, with additional men, and at the same time, forcing on the end west with vigour. We congratulate ourselves on this, as an important addition to our resources.—Joseph Buzzo: April 13.

LEWIS.—The lode in the 60 fm. level end east is 2 ft. wide, worth 6*l.* per fm. for tin; the lode in the 60 end west is 2 ft. wide, unproductive. The lode in the 50 east is 2½ ft. wide, worth 5*l.* 10s. per fm. for tin, and very promising; the lode in the 50 east, on south branch, is 6 in. wide, with good floors of tin on the south, which makes the end worth 12*l.* The lode in the 40 fm. level end east is 2 ft. wide, worth 5*l.* per fm. for tin. I think the tributers in the 30 end east are making fair wages at 10s. per fm., and 9s. in 20s. for saving the tin. Our tribute pitches are looking very well, and the tributers are making fair wages at their different tributes.—S. S. Noell: April 10.

MENDIP HILLS.—Since my last report, I have placed some men to open and prepare the ground for laying down the tram-road from the commencement of the trench to the proposed site for clearing, smelting, &c.; our progress in opening and securing the bottom stope of the trench during the past week has been very favourable; it is now about 15 fms. short of reaching the large bed of slags we have now opened on, to accomplish which will take from 8 to 10 days. The lode in the 38 fm. level, driving south of shaft, has a better appearance than I have hitherto seen it in this part, composed of light coloured flookan, spar, and lead, ground favourable for driving.—F. C. Harpur: April 12.

PENTUAN WHEAL MARY.—Since my last communication, about 2 fms. have been driven on the course of this lode; it is at present about 12 in. big, underlaying towards the north very fast indeed, and I am sorry that I cannot say anything in favour of its appearance; it, however, is yet very shallow, not more than 4 fms. deep, the ground in which it is imbedded is not expensive (30s. per fm.)—therefore, the level will be driven expeditiously, and I hope next week to be able to report some improvement.—J. Hitchens: April 12.

SOUTH TAMAR UNITED.—The men in the adit level have cleared 20 fms. north from Monday's shaft. I expect the engine will be in course for working in three weeks.—B. Robins: April 13.

SOUTH WHEAL MARIA.—The shaft will be completed to the 20, under adit, or 30 fms. from the surface, by Saturday next, when it is intended to cut a plat, and drive both north and south, to intersect the six lodes visible at the surface, and continue sinking the shaft to the 30 under adit level; this having been decided on at a meeting of the shareholders, held at the mine, on Tuesday last, the 13th inst. We calculate on sinking about 3 fms. per month with nine men, and cross-cutting 6 fms. each way by six men; in each level the killas has a good mineral appearance, and we have great confidence in finding some of the lodes productive when cut—the six lodes being within 70 fms. of the surface.—G. Francis: April 15.

SOUTH WHEAL TRELAWNEY.—The ground in the cross-cut, west from the engine-shaft, is still favourable for driving, being a light soft blue killas strata, interspersed with white prian heads (or veins), and the progress making quite satisfactory. Sobey's lode, in the adit level south, is 20 in. wide, composed of gossan, with a branch of barytes, 8 in. wide; within the last 4 fms. the lode has produced great quantities of it, which is favourable for lead, and the appearances of the lode at present are very promising indeed. The engine is safely landed at St. Germains, and the greater part of it brought on the mine, and by Tuesday next the whole of it will be brought thither.—W. Lean.

TAMAR SILVER-LEAD.—In the 160 fm. level, south of the shaft, the lode is 18 in. wide, composed of capel, spar, and ore, saving work: in the north end, at this level, the lode is 6 in. wide, producing a small quantity of ore. In the 145 fm. level south the lode is 2 ft. wide, composed of capel and mundic, with small strings of silver-lead ore; in the winze, sinking below this level, we have not broken any lode since last reported; in the 145 fm. level end north we are also dessing the lode, but the wall, in passing on, is presenting a promising appearance. In the 135 fm. level the lode is 3 ft. wide, work of a coarse quality. In the 125 fm. level the lode is 18 in. wide, 6 in. of which is good work. In the rise, in the back of the 35 fm. level, the lode is 1 ft. wide, saving work. At North Tamar, we have suspended the 70 fm. level for the present, until we ascertain the bearing of the main branch in the level above. In the 60 fm. level, driving north, the lode is 4 ft. wide, 1 ft. of which is producing good work; in the same level south the lode is 1 ft. wide, composed of spar and ore, saving work. We sampled, on the 1st inst., 90 tons 11 cwts. 1 qr. of rich silver-lead ore.—James Sprague: April 12.

TINCROFT.—We have done but little in the 100 fm. level in the north mine since my last report; the water is still so quick that we can keep it in fork but short time together. The south lode in the 90 east is 2½ ft. wide, producing some good ore, worth 10*l.* per fm.; the east end in the north lode producing tones of ore and kindly; the 90 west is also producing good stones of grey ore, and very promising. The 80 east is suspended, and the men put to rise in the back, in order to hole to a winze in the bottom of the 70; the rise is producing good work for tin; the lode in the 80 west is 15 in. wide, worth 10*l.* per fm. The 70 west is at present unproductive. The lode in the 60 west is 8 in. wide, producing tinstuff. The 50 west is worth 8*l.* per fm. The tribute department continues much the same as for some time past. At Palmer's, the lode in the 38 fm. level west is 2 ft. wide, producing some ore, and kindly; we have one pitch working in the back of this level by four men, at 8s. 6d. in the 1; from this and the other pitches we are raising fair quality work; we expect to be able to work at the 60 fm. level next week. At the south mine, on Higherrow lode, the lode in engine-shaft is 2½ ft. wide, worth 50*l.* per fm. The lode in the 152 west is 2½ ft. wide, worth 15*l.* per fm. The lode in the 142 east is 4 ft. wide, worth 12*l.* per fm. The winze sinking below the 120 is worth 12*l.* per fm.; the 120 east is worth 20*l.* per fm. The 110 east is worth 40*l.* per fm. The stopes in the bottom of the 100 are worth 20*l.* per fm. Our pitches in this part of the mine continue to yield fair quality tinstuff. At Wheal Providence, we are securing the shaft, and clearing the adit as quick as possible. In two or three months I hope we shall commence clearing the mine below the adit.—William Paul: April 12.

TIN VALE CONSOLS.—This mine is situate in the parish of St. Neot, at the western side of Dram's River, embracing a beautiful valley, which runs nearly north and south, and crosses the lodes nearly at right angles below the respective lodes. This valley has been streamed for tin for ages past, and yet its stores are not exhausted; from the impression, that this tin was through some powerful influence driven from the lodes, the present company sunk a pit or two on the back of one of the lodes; and, finding not only the best indications for tin, but also the metal in large masses, and of a very superior quality, it was at once decided that as the shaft could not be sunk for the great influx of water, an adit should be immediately directed towards this object, which has been driven about 70 fms., which intersected several rich branches, the productions of which are still on the mine; I have not measured it, but I judge there is from 30 to 40 fms. to cut the lode; it is, however, supposed that in driving this ground more lodes will be discovered; this adit will take the lode at about 35 fms. from surface, which, it is to be hoped, will produce many thousands' worth, without any machinery. The length of the sett, on the course of the lode, is more than half a mile—the ground is remarkably easy. It is the decided impression of most practical miners, men of honesty and integrity, that there are vast deposits of tin here; I do affirm that it is my opinion, returns may be shortly and easily made; here is likewise a large and commanding stream of water to be applied to any purpose for machinery.—W. H. Whitford: *Caradon Consols Mine, Liskeard, April* 12.

TRELEIGH CONSOLS.—In the 110 cross-cut north, east of Christoe's, we have not yet cut the lode, but shall expect to do so soon. In the 100, east of ditto, the lode is 2½ ft. wide, with stones of ore—it is looking more promising than it has done. In Garden's shaft, below the 90, the ground is still very hard in elvans; in the 90, west of ditto, the lode is just the size as last week, 2 ft. wide, but better for ore, worth 25*l.* per fm. In the 80, west of ditto, the lode is 2½ ft. wide, worth 5*l.* per fm.—this is likely to improve in the next week; in the 80, east of ditto, the lode is 4 ft. wide, worth 28*l.* per fm.—this is improved the last few days. In the rise, above the 70 west, the lode is 20 in. wide, but very little ore; in the 70, west of Goodfortune, the lode is 4 ft. wide, worth 8*l.* per fm.—holed to Symons's shaft; the ore is rising from the bottom of an end. In Symons's shaft, below the 60, the lode is 4 ft. wide, not much mineral—holed to the 70, on the level below; it will require next week to complete.—W. Symons: April 10.

TRELEIGH CONSOLIDATED MINES.

Assets.				*Liabilities.*			
Balance in hand		£2754	13 11	Acceptances not due	£274	3	9
Copper ore sold	£1063 7 6			Outstanding accounts	1123	17	9
Less dues	66 10 0	996	17 6	Lords' dues owing	306	10	0
				Contingencies	20	0	0
Total		£3751	11 5	Total	£1724	11	6

UNITED HILLS.—In the 80 fm. level, east of Williams's shaft, the lode is 3½ ft. wide, worth 25*l.* per fm.; in the 80, west of cross-cut, the lode is 2 ft. wide, worth 14*l.* per fm. In the 70, east of eastern shaft, the lode is 2½ feet wide, worth 10*l.* per fm.; in the eastern shaft, under the 70, the lode is 4 feet wide, worth 20*l.* per fm. In the shallow adit end east the lode is 4 ft. wide, worth 7*l.* per fm. At Wheal Charles, in the 50, east of Gibson's shaft, the lode is 2½ ft. wide, poor. In the 40, east of ditto, the lode is 2½ ft. wide, worth 9*l.* per fm.; in the winze, under ditto, the lode is 4 ft. wide, worth 12*l.* per fm.; in the stopes, back of ditto, the lode is 3 ft. wide, worth 18*l.* per fm. At Wheal Sparrow, in the 40, west of Turner's shaft, the lode is 18 in. wide, worth 6*l.* per fm.; in the 40, east of ditto, on Stacey's lode, we have not yet cut through the lode, so as to enable us to report its real value. In the 30, west of Turner's shaft, the lode is 7 ft. wide, worth 25*l.* per fm. In the adit end, west of ditto, the lode is 1 ft. wide, producing stones of ore occasionally.—T. Trevenen; R. Williams: April 10.

WEST SHEPHERDS.—There is still a good leader of silver-lead ores connected with the lode in the bottom end, worth from 14*l.* to 16*l.* per fm.—with the most promising indications of a greater change for the better in a short time—the country around the lode is also more favourable. The pitch, west of the winze, sunk from the 12 to the 20, is looking exceedingly well—we have a solid leader of silver-lead ores in it, worth about 15*l.* per fm.; the pitch, east of the winze, is also very good, worth about 10*l.* per fm; the leader connected with the lode in this pitch is larger than the western one, but not so rich—it is composed of silver-lead and spar. There was drawn to the surface yesterday, a very rich lot of silver-lead ores—perhaps as clean and rich as ever was drawn from the bowels of the earth—we calculate it to be from 80*l.* to 90*l.* worth, risen by four men, in five days, from the western pitch. The mine at present wears a very promising and gratifying aspect.—D. Skewes; T. Hooper; April 14.

WEST WHEAL JEWEL.—In the 115 fm. level, east of cross-cut, on Wheal Jewel lode, lode 2 ft. wide, producing some ore on the south part. In the 100 fm. level, west of cross-cut, on same lode, lode 1 ft. wide, worth 4*l.* per fm. In the 70 fm. level, west of Williams's cross-course, on same lode, lode 9 in. wide, worth 6*l.* per fm.; no lode taken down in the winzes in the past week. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, lode 18 in. wide, looking more promising than when last reported. In the 12 fm. level, west of Quarry shaft, on same lode, lode 18 in. wide, worth 12*l.* per fm.; the winze, in the bottom of this level, worth 15*l.* per fm.; the stopes, east of George's winze, in the bottom of this level, worth 10*l.* per fm. The stopes, east of Pryor's winze, in the bottom of the adit, on same lode, worth 15*l.* per fm. In the 12 fm. level, west of old sump shaft, on same lode, lode 1 ft. wide, worth 6*l.* per fm.; in the 12 fm. level, east of Rowe's winze, on same lode, lode 6 in. wide, worth 5*l.* per fm. In the adit end, west of Quarry shaft, on same lode, lode 15 in. wide, worth 15*l.* per fm.—R. Johns: April 12.

WEST WHEAL MARIA.—The lode in the eastern engine-shaft is about 5½ ft. wide, producing some good stones of copper ore, and at present it is a kindly-looking lode; the western engine-shaft is sunk below the 54 fm. level 2 fms. 2 ft., ground favourable for sinking—the lode in this shaft is about 2 ft. wide, producing a little. In the 54 fm. level, east of this shaft, no lode taken down in the past week; in the cross-cut south, in this level, the ground is a little improved for driving.—T. Rodda: April 13.

WHEAL ADAMS.—I have this morning inspected the different ends and other tutwork bargains, together with the tribute pitches, and beg to report as follows:—The lode in the 60 fm. level, driving south, is 4 ft. wide, containing spots of lead and stones of blende; the black flookan has made its appearance on the hanging wall, and assumed its regular underlie easterly. We look at this as a favourable circumstance, because similar appearances presented themselves in the upper levels, near shoots and bunches of ore; a large stream of water issues from the bottoms of the end; and the small pumps, in the bottom lift, being inadequate to keep it down, we are making every preparation to drop larger pit-work, which we hope to complete by the end of this week. The rise in the 50, on the western lode, is producing good saving work, with favourable ground, and promising indications. The lode in the 40 fm. level, driving south, continues large; but it does not produce quite so much lead as it did last week—the cross-cut, extended west in this level, to cut the western silver-lead lode, being in exceedingly hard elvan, is suspended. Other cross-cuts are being cleared and driven in the 28 and 18 fm. levels, for the purpose of intersecting this lode in more congenial ground for lead. We regret that the ground in the cross-cut, driving west to cut the copper lode, is very hard, and, at this moment, the indications are unfavourable; the pitches, on the whole, are much the same as they have been for a fortnight past. The pitch, set at 4s. in the 1*l.*, is producing about three-quarters of a ton of lead ore to a fathom. The assay office is nearly completed; and experiments will soon be made with the gossan, black oxide of copper, blende, barytes, and the mundic, both combined with, and separated from, the lead; and the results shall be regularly made known to you. We sampled, yesterday, computed 42 tons of lead ores—samples of which are sent to the different smelters and purchasers.—J. Prince: April 13.

WHEAL ASH.—In laying before you a report of this mine, I can only speak of the lodes as seen at surface, and of what has been done towards cutting them below. We first commenced shoading, and found what we term our south lode; this lode is about 6 ft. wide, composed of gossan, mundic, and small spots of ore, and very highly stained with copper. We then shoaded further north, and found what is called the middle lode, about 15 fms. north of the south one; this lode is 11 ft. wide, composed of gossan and stained with copper About 25 fms. further north we found what is called the north lode—this is about 6 ft. wide, composed of gossan and spar. These three lodes are of the most promising description. This induced us to erect an engine-wheel, and sink a shaft; and as we found an adit could be brought in from the valley, at a depth of 35 fms., we determined on sinking the shaft to that depth before cutting the lodes. The shaft has been sunk to that level, and cross-cuts are now being driven out, both north and south, to intersect the lodes. If the north lode underlays 3 ft. in a fm., as we anticipated, the end is now within 6 ft. of the north lode; but a trifling variation in the angle of underlay may give us several fms. further to drive. In driving this cross-cut we are continually meeting with small branches of ore—this looks well. The south cross-cut is also approaching very near where we expect to intersect the middle lode. The adit, above alluded to, has been driven 170 fms.; this was commenced on a lode bearing north and south and producing lead—this lode of itself is a fair speculation. In driving this level south, towards the north lode, we met with two others still to the north—the first about 3 ft. wide, underlaying north, which is a promising lode; the second is 4 ft. wide, underlaying south, this also is a promising lode, and will intersect the lode, which we call the north lode, at about 20 fms. below the adit. The channel of ground, through which we are driving the cross-cuts, is very good; and I think it will be hard indeed, if some of these lodes do not produce a good course of ore. The adit will intersect the north lode in a few fms. further driving—this will be from 150 to 200 fms. west of the engine-shaft.—R. Edwards: *Horrabridge, April* 12.

WHEAL EMMA.—There is little or no alteration since my last; the shaft men have been engaged doing some necessary work in the shaft, consequently but little progress in sinking. In the end driving east on the north lode, in the 22 fm. level, no lode has been taken down during the past week. The adit is set to drive at 28s. per fm. the lode being of a promising description.—H. Choake: April 13.

WHEAL LOUISA.—Yesterday, being our setting day, we set to our men the ends in the 20 fm. level, to drive on the course of the lode, at 50s. per fm., and also set (bargain) the plat to cut, and other necessaries, in order to commence sinking the engine-shaft as early as possible; the lode in the 20 fm. level, I am happy to say, is greatly improving as we approach the cross-course, and is full 12 ft. wide, composed of quartz, prian, flookan, and interspersed with rich yellow ore, presenting greater promise than could be expected at the depth.—J. Chynoweth: April 13.

WHEAL SOPHIA.—The lode we are now driving on is 6 ft. wide, composed of gossan, mundic, and solid stones of copper ore, of good quality, and has a better appearance than we have ever yet seen. The adit is extended 70 fms., but the air now is rather bad, and, in order to make it better, we intend sinking a shaft to meet the end, which is about 20 fms. from the surface; this being done, we can work on again comfortably, and shall then be able to sink below the adit level. A wheel can be erected, and a supply of water can be taken from the Tamar, without a great expense.—H. Luke: April 14.

MINES AND LEASEHOLDERS.

Sir,—It is well known that most conventionary leases for lives, and long terms, as well as rack leases, contain a reservation of ores, stone, clay, slate, and other minerals, with liberty to enter, dig, work, mine, and search for same; and to make or sink any shafts, pits, or adits, &c.; and to raise, manufacture, &c.—so that on the grant of a sett, or liberty to work by the freeholder, the soil is to a greater or lesser extent destroyed—the compensation to the leaseholder or tenant being perfectly optional. No one without a grant has a right to enter, and break; and it is, therefore, the interest of the lessee, whenever he accidentally discovers a lodge, to hush the matter, up on the principle that "the less said, the soonest mended." The interest of mining demand a better state of things, especially for the leaseholders for lives, and long terms, at conventionary rents. This matter wore a very different aspect in olden times, when land was worth comparatively little; but a compensation clause is now required, as frequently inserted in setts, but not in leases to tenants.

Penzance, April 9. A. T. J. Martin.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

Alfred Consols.—I have been informed, from what I consider good authority, that Alfred Consols never looked as well as at present. There is a splendid lode in the 10 fm. level, composed of very strong yellow ore, worth from 25*l.* to 30*l.* per fm. They are bringing up the adit from the old mine, on Alfred Consols lode, which is composed of spar, prian, and gossan, with spots of yellow ore, and presents altogether a very promising appearance.

Condurrow is somewhat improved, although the books on Tuesday next will show a trifling loss on the two months, of about 150*l.*, but I believe there will be no call.

At Devon and Courtenay Consols they have a good lode in the western end of the north shaft, about 15 in. wide, but it does not hold out in the shaft above 4 ft. as yet. In driving the cross-cut north from engine-shaft, towards the south lode, they have intersected a branch about 3 in. wide, underlaying north towards the lode, producing some good stones of copper ore; this branch will fall in with the lode at no great depth below this level, and I should think the lode will be intersected by this cross-cut in about a fortnight.

Exmoor Wheal Eliza.—The reason of our not making greater progress here, is in consequence of the delay occasioned in the erection of the water-wheel, which will now go to work in about a week from this time.

Gonamena.—A considerable improvement has taken place here; in the bottom level east they have a fine lode, but I shall go and see for myself in a day or two, and will then advise you, for there is no dependence to be placed on the rumours we hear.

Gwinear Consols.—I am happy to advise you, that the prospects of this adventure are equally good as when I last wrote you; and I am informed, from good authority, that a parcel of about 30 tons of superior ore is broken, and at surface; and that the sampling, which will take place in about three weeks hence, will be some criterion of what will be done in future, as prospects are daily improving.

Harrowbarrow Old Mine.—The adventurers have much cause of complaint relative to the proceedings herein; formerly they used to get, through the medium of your Journal, constant periodical reports of the workings and prospects of the mine—why they have been discontinued is not explained. It is understood in the neighbourhood that all the shares have been bought up by the large and monied shareholders, who, it is presumed, are in possession of information which does not come before the public. It is a known fact, that many tribute pitches are let upon terms which enable the takers to realise handsome profits; whilst there are now 4 *or* 5 tons of tin, at from 50*l.* to 55*l.* per ton, ready for market, besides immense heaps of tinstuff, which the limited number of stamps cannot clear off. The simple matter of fact is, that the concern is prospering beyond any in the district, save the great gun; and this ought fairly to come before the public, that a fair competition might be allowed for the disposition of shares. It seems as though the concern was about to become one of those old-fashioned Cornish pocket boroughs; a hint from the reforming pen of your Journal may prevent such a game in the nineteenth century. It is difficult to procure a share, and certainly not at your quotation. —A Subscriber: *Devonport, April* 9.

South Francis.—I was underground last week, and am happy to inform you that the prospects were never better than at present. In the 30 fm. level they have laid open 60 fms. of orey ground, worth, on an average, 10*l.* to 15*l.* per fm.; and in the present end the lode is 3 ft. 6 in. wide, worth 15*l.* per fm. In the 40 fm. level they have driven through 50 fms. of orey ground, the lode averaging from 3 to 10 ft. wide—at present, 4 ft. 6 in. big, worth 15*l.* per fm.; but where they are sinking the winze, in the bottom of the 40 fm. level, it is worth, at least, 300*l.* per fm., being a solid course of black ore, worth 15*l.* per ton the whole size of the lode. In the 50 fm. level they have a very fine and promising lode, worth 25*l.* per fm. In the 60 fm. level the end is at present poor, but very promising, having driven through 25 fms. of orey ground, averaging 25*l.* per fm. The 80 fm. level end is worth 15*l.* per fm. at present, but the last 10 fms. have been worth 60*l.* per fm. The 94 fm. level is not yet forth to the orey ground; and it is very important to notice, that none of the ore has been taken away from the backs, excepting in the winze, between the 40 and 50 fm. levels.

Wheal Calstock.—I have recently visited this sett, and find its prospects in accordance with the representations made of it; and since then a very promising discovery has been made in the shallow adit.

Wheal Gill.—I visited Wheal Gill on Saturday last, and I learn that the prospects are highly encouraging; the lode, especially in the eastern shaft, is yielding good stones of ore.

Wheal Tryphena.—An improvement of great importance and magnitude was effected here on Tuesday last, by a discovery of a rich course of tin in the 65 fm., or bottom level, worth at least 50*l.* per fm.: leaving a 25 fm. back of that value, and of considerable length; the level above (being the 40 fm. level) having gone through it, and worth in some places from 60*l.* to 70*l.* per fm.

ACCIDENTS.

West Bromwich.—J. Tank was killed by a fall of rubbish at Mr. Hartland's.

Llangattock Limestone Quarries.—As W. Budge, master quarryman, was about commencing his work, a large stone fell, and so seriously injured him, that he expired a short time after he had been conveyed home.

Bilston.—B. Rudge was killed by the falling of a large iron column at Mr. Vernon's Iron-Works, at Stoneyfield.

Bursting of a Boiler.—T. Hodgkinson, engineer, was killed by the bursting of the boiler at Mr. Marsland's, Chester-street, Hulme. It appears there were four boilers in use in the boiler-house, three high-pressure, and one low-pressure; and it was found that the explosion had proceeded from the low-pressure one. An inquest was held on the body at the Lord Moseley, Chester-street, when it appeared that the engine had stopped, and could not be got to work again. Mr. John Hick, of Bolton, had examined the engine, and found that one of the valves leading into the cylinder of the high-pressure engine had got stopped, which could, of course, cause the engine to go slower. The engineer, finding his engines going slower, and at length stopping, would raise the steam valve, to ascertain the cause, thus opening a communication between the high and the low-pressure boilers. If the safety-valve was not (as in this case it was not) adequate to carry off this excess of steam, an explosion must follow.

Rose-Bridge Colliery—Death from the Explosion of a Boiler—Verdict of Manslaughter.—On Saturday last, and, by adjournment, on Monday, an inquest was held at the Crown and Anchor, Queen-street, Manchester, on the body of a youth, James Heaton, aged 18 years, a drawer in a coal-pit, who met with his death from the explosion of a boiler at Rose-Bridge Colliery, on Friday morning last. From the evidence, it appeared that the deceased had, unknown to the engineer and fireman, laid himself down between two boilers, and was there supposed to be asleep, about half-past 10 o'clock in the morning, when one of the boilers exploded. A lengthy inquiry was made into the conduct of John Ashurst, the engineer, and Lee Ashurst, the fireman, both of whom were in charge of the engine and boilers at the time of the explosion, from which it

appeared that the accident had been caused entirely by neglect. The jury, at the close of the inquiry on Monday, returned a verdict of "Manslaughter" against both engineer and fireman, and they were committed on the coroner's warrant to take their trial on the charge.

ECTON MINING COMPANY.

A special general meeting of adventurers in this mine was held pursuant to circular, at the offices, King-street, Cheapside, on Saturday, the 10th inst.

PETER DAVEY, Esq., in the chair.

Mr. Snell being present, it was suggested by Mr. EDWARDS, that as that gentleman must be considered as representing the interests of Mr. Williams, and as the subject matter for discussion, was one of a peculiar nature, as affected the interests of the adventurers, he considered that the discussion should be entered into without any parties being present but those intimately interested in the undertaking; upon which, Mr. Snell immediately withdrew.

The CHAIRMAN proceeded to state the objects for which the meeting had been convened, it appearing that the contract entered into for working the mine on tribute (as reported in a late number of the Journal), could not be carried out effectively—inasmuch that the term unexpired for which the mine was held by the present company, had only 18 months to run; and moreover that the terms required by John Taylor, Esq., the toller, or steward, of the Duke of Devonshire, with reference to a lease to be granted for the term of 21 years, was such as would not accord with the agreement entered into with Mr. John Williams—it being required that 18 men should be constantly employed in underground operations; and, moreover, that no tribute of the halvans could be set for a term exceeding 12 months, or tribute pitch underground, beyond a period of two months; while, by the agreement entered into with Mr. John Williams, it was agreed that he, Mr. Williams, should have a right to return the halvans, and work the mine for a period of three years, from the date thereof (12th Feb. 1847), at a rate of 13s. 4d. in the 1*l.*, he paying to the adventurers 6s. 8d. in the 1*l.* on all ores returned from the mine during that period; and further, the right of working for three years, beyond such term, on the payment of 10s. in the 1*l.*; which, under the circumstances in which the company was placed, could not be done. It was, therefore, for the adventurers to consider the course to be pursued. Mr. Williams having been communicated with, and put in possession of the facts of the case, and the position in which the company was placed, he thought it right to observe that that gentleman was willing to withdraw his claim to the powers vested in him by the agreement, on a certain sum being paid him, and certain other stipulations, which were in fact these—that the sum of 600*l.* be paid down by way of compensation, and that an appointment be given him, or his nominee, for a stated period as superintendent of the mines, at 100*l.* per annum, and also 5 per cent. on the net profits. He regretted that so hasty an arrangement had been effected; but of a bad bargain they must make the best.

Mr. EDWARDS, Mr. SMITH, and others, took an active part in the discussion which followed, as to certain terms to be proposed to Mr. Williams, with the view of cancelling the agreement, when it was in the end resolved, that a communication be made to Mr. Williams, offering him a certain amount in present payment, with the appointment as manager, at the rate of 100*l.* per annum, for three years certain, with 10 per cent. on the profits; he, Mr. Williams, having a resident agent under his control, at the cost of the company. A communication to such effect having been made to Mr. John Williams, who was absent from the meeting, that gentleman assented to the terms proposed; and, a cheque being at once signed, and handed over by the chairman, an agreement to the effect of the preceding was accordingly entered into, and signed, and the same ordered to be entered in the cost-book. A general discussion ensued, as to the future operations which were referred to the committee, to determine upon, as also to arrange for the due execution of the proposed leases, after communication being made with Mr. Taylor, on the subject of the terms. A call of 10s. per share was then resolved upon; and thanks having been voted to the chairman, the meeting adjourned.

HOLMBUSH MINING COMPANY.

The annual general meeting of shareholders in this mine, was held at the Offices, George-yard, Lombard-street, on the 31st of March.

J. L. HEATHORN, Esq., in the chair.

The notice convening the meeting, and the minutes of the last annual and subsequent special meetings, having been read, the following report of the directors was submitted:—

In conformity with the regulations of the company, the directors submit their annual statement of accounts, which they regret should show the necessity of the mine having required assistance from the shareholders, instead of, as in many previous instances, having contributed large dividends. In compliance with an expressed wish, which was fully concurred in by the directors, and with a view to ensure to every shareholder the fullest possible means of arriving at an accurate conception of the state of the mine, and its prospects, the presence of Capt. Lean has been required at this meeting; and, in addition to his intelligent report, which will be read, the shareholders will have the opportunity of receiving his explanations, and, by the assistance of the sections and plans completed to the present time, of coming to a clear understanding of the position of the workings. The directors have, pursuant to resolution passed at the last annual meeting, also procured an inspection and report on the mine by Capt. J. Prince, an able mine agent, resident in the district, and unconnected with Holmbush Mine.

The full mine reports which will be laid before the shareholders, as well as the presence of Capt Lean, leave but little for the directors to notice with respect to the mine. It is gratifying, however, to observe that the operations in course of being proceeded with at Holmbush, met with the concurrence of Captain Prince, and that the recommendations with respect to the future, coincide with those of Captain Lean.

Since the last annual meeting, it will be observed, that the prospects of successful results from the lead lode, which is now so productive in the Callington Mines, have very materially improved in Holmbush, and the directors look forward with much expectation to considerable returns from this source; whilst, with respect to the old copper lode, as well as to the intersection of the flap-jack lode, it may reasonably be expected, that good results will arise from the operations in progress for their further development. In the mean time, as the accounts show, there is an excess of expenditure over returns; but it may be observed, that a comparatively small discovery, and increase in the raisings, will alter materially the position of the mine.

At this meeting, Mr. W. Chippindale and Mr. T. Hacket retire by rotation from the direction, and Mr. J. Camps from the auditorship, but offer themselves for re-election.

The statement of accounts for the past year (1846), examined and passed by the auditors, was read:—

The balance to the debit of the company to the end of 1845, was		£658	13 8
The expenditure in 1846 to end of December		10,366	7 10
		£11,025	1 6
The receipts for copper, less dues	£7515 4 10		
ditto lead ditto	460 15 7		
Credit for December, and materials sold.....	245 9 5		
Three calls of 1*l.* each, on 1000 shares	3000 0 0	11,221	10 0
Balance in favour of the company		£196	8 6

The following annual report of this mine, from Capt. W. Lean, was read to the meeting:—

The diagonal shaft is sunk 4 fms. below the 120 fm. level, in which are several small branches of soft spar and stones of yellow copper ore of good quality—all of which are nearly perpendicular to the north of these branches. We have a lode 14 in. wide, underlaying south towards the shaft; and should the underlie continue as at present, it will form a junction with these branches at the 130 fm. level, to which point we shall look forward with deep interest—believing the lode will be found a productive one, should we be fortunate enough to get under the floor of ironstone. The lode in the 120 fm. level, west of the great cross-course, is 10 in. wide, producing stones of ore, mundic, and spar—this level is extended 11 fms. west of the cross-course; the first 7 fms. was driven through a course of ore, worth, on an average, 40*l.* per fm. The lode in the remaining 4 fms. has been in disordered ground, occasioned by numerous small cross-courses and slides: but, at present, the lode assumes a kindly appearance, and apparently is getting into a settled strata. From the present end to the slide is 24 fms.; and from the slide to the lead lode, is 4 fms. This we consider a promising piece of ground—having driven over a course of ore 5 fms. long in the 110 fm. level, between the slide and the lead lode, which is set on tribute; and, in going down, is found to be lengthening and productive. The lode in the 120 fm. level, east of Hitchen's shaft, on the north part, is 14 in. wide, composed of mundic, spar, and spots of rich yellow copper ore. This is the lode supposed to form a junction with the branches in the shaft in the 130 fm. level—this level is extended 25 fms. east of Hitchen's shaft. The lode in the 110 fm. level, east of Hitchen's shaft, on the south part, is 8 in. wide, composed of soft spar and stones of rich yellow copper ore, and is 62 fms. east of Hitchen's shaft; the lode in the 110 fm. level south is 2½ ft. wide, composed of sugar-spar, prian, and stones of lead, worth about 10*l.* per fm. We consider this to be a very promising lode indeed; from the present end south to boundary is 165 fms. The rise above the 100 fm. level is also opening ground that will set on tribute; the lode in the 100 fm. level south is 3 ft. wide, composed of prian, spar, and stones of lead, worth 8*l.* per fm., and promising a speedy improvement. From the present end south to boundary is 124 fms. from the general direction of the flap-jack lode—we have only 8 fms. to drive to intersect it. We always have been very sanguine respecting this lode, and still are so, and shall look forward with no small interest to its being intersected, and driven a few fathoms on towards the great cross-course—being one of the principal points we have to look for assistance; and we hope we shall not be disappointed. The lode has not been seen so far west as the great cross-course by 100 fms., where the Holmbush, or main lode, was found so productive. We are also of opinion, that the lead lode will be found more productive to the south of the flap-jack lode, than it has been to the north; for we know of no other east and west course between this and the boundary to interrupt it.

The lode in the 90 fm. level south is 2 ft. wide, composed principally of flookan, with spar, and particles of lead; from this level, south to boundary, is 132 fm. from the Callington Mine north-engine shaft. North to boundary is 85 fms., and from that shaft these several levels are extended northward, as follows—viz.: the 100 fm. level 15 fms., lode 4 ft. wide, opening ground that will set at a moderate tribute; 90 fm. level 45 fms., lode greatly improved, producing good saving work; 70 fm. level 20 fms., suspended; 40 fm. level 20 fms., ground soft, lode poor—you will perceive these shallow levels are not so productive, generally speaking, as those levels below. Such is the case at this mine, the lode having never produced anything worth saving above our 90 fm. level. We may, therefore, fairly calculate on meeting with a much larger quantity of lead in this, and the levels below, than we have hitherto met with in extending our level south, towards those levels that are being driven north towards us from our neighbouring mine, some of which are productive, and to within about 40 fms. of the boundary—so at present we have 59 men working on tribute, varying from 5s. 6d. to 13s. 4d. in the 1*l.*, and 36 tutwork men. Our samplings, as you must have perceived, are gradually decreasing, and will continue to decrease, without a discovery. Twelve months since we were in high expectation of having a long run of ore ground to the west of the lead lode; but was greatly disappointed in finding it so quickly fail, the lode becoming small, worthless, and very unpromising, and the strata being different to that east of the lead lode. The quantity of ground opened on since March, 1846, in driving, rising, sinking, and stoping, is 413 fms. 1 fm. To continue the present operations on tutwork and tribute, with a few additional surface labourers to work at the stamps, when they shall have been completed, will cost about 70*l.* per month. We expect to get the small stamps to work in two months from the present time to stamp the lead halvans, and the large stamps to be set to work in five months to stamp the copper halvans—the latter halvans will keep six head stamps at work for some years, none of which has been stamped or removed since the mine was first commenced, except by a few parcs, who particularly worked it as a halvans bargain. We think it premature in stating the quantity of halvan ore we are likely to return, until we have somewhat proved it; but, judging from the quantity and quality that has been picked from the surface of the vast heap we have on the mine, we are fully convinced it will more than pay double for returning.

We have about 6 tons of rich silver-lead ores dressed, and about 5 tons of lead that is mixed with white iron, that requires to be crushed almost into a powder, in order to separate the one from the other, previous to our being able to clean it properly for the market; when finished, no time shall be lost in preparing it for sale. In conclusion, we beg to propose the following work to be carried out in a vigorous manner, which we hope you will sanction:—The diagonal shaft to be sunk by eight men as at present; 120 fm. level, west of the cross-course, by six men, to get under the shoot of ore in the bottom of the 110 fm. level, and to intersect the lead lode as soon as possible; and six men to drive the 120 fm. level, east of Hitchins's shaft, on the north part; and four men to drive the 110 fm. level, east of Hitchins's shaft, on the south part, to prove the lode in the eastern part of the mine, and to get back under Wall's shaft, to ascertain, if possible, the depth of the floor of the ironstone; we shall then be in a position to judge for the future; but, to effect this, is a work of time, having to drive the 110 fm. level, to get opposite Wall's engine-shaft (90 fms.), and the 120 fm. level 125 fms. However great the taskt apparently, we think the same should be carried out as fast as possible, to prove tha' long piece of unexplored ground to the east of Wall's shaft, below these levels, at the foot of that beautiful granite hill, and when the levels are driven under the shaft, to rise and sink to complete the shaft to the 120 fm. level; we think this might easily be done, where the levels are under it, without again setting the engine to work, until we commence sinking below the 120 fm. level; also, six men to drive the 100, and six men to drive the 110 fm. levels south, on the lead lode, and four men to drive the 90 fm. level south; we shall then, by such work being carried out, prove the copper lodes in depth, and throughout the mine, from the lead lode eastward, and the lead lode towards the levels, that on driving north in the Callington Mines, which are so productive, as well as the Flapjack lode, It is our decided opinion, should a similar strata be found below the floor of ironstone, as there is above, the lode will prove equally productive. The lead lode has rendered us some little assistance the last few months; but, in future, our operations will be more especially directed towards it, when we may reasonably hope to increase our returns; the standard of copper ore having risen within the last fortnight or so, is also a matter for gratulation. We cannot conclude our few remarks, without again pledging ourselves to renewed exertions, in furthering the prosecution of the several points you are pleased to have carried out, and which, we believe, will ultimately prove beneficial to the company. We weighed at Calstock Quay, on Friday last, 79 tons 7 cwts. 2 qrs.; and sampled February ores, computed 84 tons.—W. LEAN. March 29.

It was then moved by Mr. J. CAMPS, and seconded by Mr. C. EARITH—That the report and accounts be received and adopted.—Messrs. Wm. Chippendale and Thos. Hackett were re-elected directors, and Mr. Joseph Camps auditor.—The thanks of the meeting were voted to Capt. Wm. Lean and Capt. John Prince, for their intelligent and explanatory reports.—The thanks of the meeting were also unanimously given to the chairman.

[We have omitted Capt. Prince's report, in consequence of its length, as well as its being merely corroborative of Capt. Lean's, the managing agent.]

SOUTH FRIENDSHIP WHEAL ANNE MINING COMPANY.

A general meeting of shareholders of this mine was held at the count-house on Monday last. FRED. S. THOMAS, Esq., in the chair.

The CHAIRMAN reminded the shareholders, that they were assembled for the important purposes of witnessing their large wheel set in motion, of auditing the purser's accounts, of deciding upon the course to be adopted in disposing of the shares upon which the former calls remained unpaid, and of making such further call as might be necessary to continue and carry out the operations which had been decided on at the former meeting.

As regarded the first of these purposes, he rejoiced to have it in his power to congratulate his fellow-adventurers upon the judicious and substantial manner in which every matter connected with the machinery had been completed. They had witnessed the first revolutions of their gigantic wheel; and the rapid rate at which she had diminished the water in the shaft, must be a satisfactory proof, that their power of drainage was quite equal to any increase of water they might experience in extending their levels. It was evident the wheel was capable of forking and keeping the water whilst making from three to four revolutions per minute, and they had the means of increasing her speed to seven or eight revolutions per minute.

The purser's accounts from the commencement of the adventure, stood thus:—

Amount of calls already made		£3584
Amount received for ores, &c., sold.....	70	£3654
Costs already paid		£2942
Liabilities to the present day.....	760	£3702

It appeared, therefore, that supposing all former calls paid, and all liabilities liquidated, there would be a balance against the company of about 50*l.* To meet this deficiency, and to provide funds for future operations, it was his intention to propose a further call of 1*l.* per share, which would leave a balance in the hands of the purser of about 200*l.* He was, however, sorry to say, their purser did not really stand in that position. Of the former calls there remained 498*l.* unpaid; and to this point he had now to direct the attention of the shareholders. He should not be doing justice to himself, or the other shareholders who had responded to the calls, did he not require that the burthen of the costs should be equally borne; the laws of the company were full and concise upon that point; the notices of forfeiture provided for in their rules and regulations had been given—the shares had been declared forfeited; and he should be prepared to propose a mode by which they should be immediately placed in the market for sale, so that the proceeds would be receivable by the purser, to be applied to liquidating the liabilities and other requirements of the mine.

He was sorry to find any of his fellow-adventurers in such a position; and if such position arose from inattention, he begged to impress upon them, that they were placing in jeopardy their interest in a mine which it was his sincere opinion would, at no very distant period, be marketable at a very high price. His opinion of this mine had not been hastily formed; he had carefully and frequently looked at her situation, and the surrounding influences; and he could not divest his mind of the conviction, that she must, if properly worked, make a rich and profitable mine. He was not in the habit of expressing a strong opinion, without giving the grounds upon which such opinion was formed; and he would endeavour briefly to state such peculiarities of this lode as would, he conceived, be admitted to be almost conclusive of future success. All mining knowledge was based upon the results of former efforts or researches. In addition to general rules, there were also certain local peculiarities which were essential. Certain strata of ground were well known to be favourable to the production of certain ores, and were the acknowledged guides whereby an experienced miner would select his mining sett.

In copper lodes (to which their present attention was directed) there were in every locality (except only where the lode made entered in the granite) four very important items. The proximity of granite—the presence of killas of a congenial quality—the fact of the lode lying parallel with and near the junction of the granite and the killas—and the existence of cross-courses, against or between which, any neighbouring and parallel lodes had proved productive.

In all these respects, South Friendship Wheal Anne was most favourably situated, especially in that portion of the adventure called Wheal Anne. Their near neighbour was the Great Wheal Friendship—a mine which had returned steady and immense dividends. The lode in Wheal Anne was a few fathoms south of the Great Friendship lode; it was a parallel lode; it had the same cross-courses; the strata of ground were precisely similar; and both lodes were running towards the granite hills, which lie to the east of these setts.

In each of these respects Wheal Anne had equal pretensions to mining favour with the Great Wheal Friendship, supposing both lodes to be unproved, and the estimate of relative value to rest entirely on surface indications and surrounding influences; but Wheal Anne had one great and decided advantage in position, upon which the shareholders therein had a right to calculate largely. Wheal Anne lode was not only running towards the granite, but it was closely bounded on the south by granite hills, with which it lay parallel; it ran between the granitic influence and the Great Wheal Friendship lode, and it must come up, at a very slight depth, in the very junction of the granite and the killas. If any gentleman would take the trouble to stand on the adjoining hill (as he had often done), he would in an instant perceive, that the granite hills to the south were lying parallel with the course of the Wheal Anne lode upwards of a mile; that the killas in which the lode presented itself at the surface was lying on the back of the granite—that the granite was dipping into the shaft at about 50 fms., and the chances were that the Wheal Anne lode would be coming up at that depth, in the junction of these different strata.

He begged the shareholders, who were holding their shares loosely, to examine these indications. They had great weight with him, in inducing him to make so great an outlay in this one mine, as he had already done, and was yet anxious to do, if needful. He thought the shareholders had a right (although, in consequence of the great success of the Great Wheal Friendship, the expression of such anticipation might appear presumptuous,) to anticipate an equal, or a superior, mine. At any rate, he was justified in saying, that such a combination of influences rarely failed in producing a profitable mine. He was happy to inform the shareholders, that the greatest expense had now been incurred and paid. For the prosecution of a great mine, it was essential that they should have sufficient power. Their arrangements were commensurate with the object they had in view. Their proposed operations were to fork the water to the 52 fm. level, thence to drive through the cross-course, and cut and drive upon the lode in the Wheal Anne side. They would then be driving parallel with the Great Friendship workings, and between these workings and the granite hill to which he had before alluded. He had hoped that every shareholder who had contributed to the preparation for the important operations now contemplated, would have had the ability to hold his shares, until something decisive had been done. They had returned a small parcel of ore, of excellent quality, from the back of the lode; they should again set on tribute at the 10 fm. level, and he really thought they were on the eve of such discoveries as would give a ten-fold value to their shares. The mine had not hitherto been launched in the market; she was now in working order—it would, therefore, be necessary to give periodical reports of their proceedings; and he had no doubt, when all facts were known, her pretentions to public favour would be fully acknowledged Having thus expressed his candid opinion, he trusted his co-adventurers would struggle to provide their calls, and reap the reward of their exertions.

It was then resolved—That all shares, upon which the former calls have not been paid, and which have been transferred into the name of the purser, according to the resolution of the special meeting of the 22d of February last, be immediately offered for sale; that Messrs. Crossman, Somers, and Co., of the Mining Adventurers' Subscription Room, 28, Threadneedle-street (and all other agents, who register shares for sale), be authorised to register them, at 20*l.* per share; that the same be advertised in the *Mining Journal* and *Herald*, and that they transmit to the purser any offer which may be made.—The salaries of Capt. Spargo, Capt. Harris, and Mr. Nathaniel Smith, the engineer, are to be each increased 1*l.* per month; and the captain and superintending agent are to forward reports, once in every fortnight, to the Editors of the *Mining Journal* and *Herald*.—A further call of 1*l.* per share was also made, when the meeting adjourned.

CARADON CONSOLS.—A meeting of shareholders was held at the mine, on Tuesday, the 6th inst., when a statement of accounts was presented, showing a balance against the mine of 263*l.* 1s. 1d., the arrears of calls amounting to 237*l.* 17s. 6d. The accounts having been examined and passed, the following report, from Captains W. Whitford and H. Taylor, was read to the meeting:—Since our last meeting, we have driven the 37 fm. level about 6 fms. east on the main lode, making in all about 10 fms. from the cross-cut. The lode at present is about 15 in. wide, composed of copper, fluor, and peach, occasionally producing fine stones of ore. The 27 fm. level west, on the same lode, has been driven about 7 fms.; here there is an important improvement; we, therefore, strongly recommend the prosecution of those levels, as present indications justify the expectation of favourable results.—One of the shareholders having expressed his wish to relinquish his two shares, it was resolved—That the purser be instructed to forward to each shareholder an abstract of the accounts, with an intimation that this meeting stands adjourned to Tuesday, the 20th inst., for the purpose of ascertaining the feeling of the shareholders generally, relative to the further prosecution or relinquishment of their shares or interests; and that such shareholder be requested before that day to state his determination by letter to the purser.

CONDURROW.—At a meeting of adventurers, held at the mine, on Tuesday, the 13th inst., the following statement of accounts was presented:—Labour cost for February and March, 664*l.* 2s. 11d.; merchants' bills, 203*l.* 14s. 4d.; E. W. W. Pendarves, Esq., dues of ore sold February 4 (1-20th of 665*l.* 0s. 5d.), 33*l.* 5s.; balance due to purser end of Jan., 560*l.* 4s. 1d. = 1461*l.* 6s. 4d.—By call made end of January, 2*l.* per 256th share, 512*l.*; ores sold the 4th of Feb., 665*l.* 0s. 5d.; tin, 70*l.*; spare materials, 16*l.*: leaving balance due, 198*l.* 5s. 11d. —The accounts, having been examined, were allowed; and the next meeting of the adventurers fixed for the second Tuesday in June.—The following report, from Captain Nicholas Vivian, was read to the meeting:—The engine-shaft is sinking under the 50 fathom level at 16*l.* per fathom, the contract is taken for 10 fms.; lode in shaft 3 ft. wide, orey on the north part, and underlaying 1 ft. per fathom southerly. The 50 fm. level, driving east of engine-shaft at 40s. per fm., lode 2 ft. wide—very promising, and yielding a small quantity of grey ore; a pitch in the back of said level at 10s. in the 1*l.*; 50 cross-cut driving north, west of engine-shaft, to cut Llandower lode; 50 cross-cut driving south, west of ditto, to cut a split of the main lode. Two pitches working in the back and bottom of the 40 fm. level at 8s. and 13s. 4d. in the 1*l.* In the 30 fm. level driving east on the Landower lode, lode 1½ ft. wide, yielding some ore; in the 30 west on Llandower lode, lode 3 ft. to 4 ft. wide, tribute ground; one pitch in the back of the 30, in the main lode at 13s. 4d. in the 1*l.* One pitch in the back of the 20, on the main lode, at 13s. 4d. in the 1*l.* In the 10 fm. level, driving east of engine-shaft, on the Llandower lode, lode yielding 6 tons of ore of good quality per fm., at 3*l.* per fm., and 5s. in the 1*l.* tribute, also 5s. in the 1*l.* for stoping the back of the said level; in the 10 west, on Llandower lode, lode 2 ft. wide, very promising, with stones of good ore. Deep adit driving west, large promising lode, yielding 5 to 6 tons per fm.; bottom of deep adit, working on tribute at 10s. in the 1*l.*; back of deep adit ditto, at 6s. 8d. in the 1*l.*; we are clearing the 10 fm. level, east on the main lode, when this done we intend to drive the level into the workings of the eastern mine, and that accomplished, to drive the 20, 30, and 40 fm. levels also into the old workings. The next sampling, judging from present appearances, will be about 180 tons.

GREAT WHEAL WILLIAMS.—A two-monthly meeting was held at the Globe Hotel, Plymouth, on Monday, the 5th inst.—J. P. MACQUEEN, Esq., in the chair.—The report of the committee (made in pursuance of the resolution passed at the special meeting of Feb. 1), having been laid before the meeting, was adopted, and the further working of the mine suspended, as therein recommended. The purser was instructed to cause the necessary legal proceedings to be commenced, to recover all unpaid calls.

MARKE VALLEY MINING COMPANY.—The annual general meeting of shareholders took place at the White Hart Hotel, Salisbury, on Thursday, the 8th inst. The circular convening the meeting having been read, a statement of the accounts was presented, which showed a balance of 949*l.* 19s. 9d. in favour of the company; the cost for March amounting to 327*l.* 2s. 5d.; and the liabilities, at the end of the same month, amounting to 127*l.*—making together 454*l.* 2s. 5d., being still due. This amount, however, will be covered by the proceeds of 125 tons, sampled on the 26th March—so that 949*l.* 19s. 9d. may be considered as the actual balance in favour of the company at the end of March. —The accounts having been passed, the CHAIRMAN directed the attention of the shareholders present to the following report from Mr. James Wolferstan and Capt. James Seccombe, which was then read:—In compliance with your instructions, we beg to hand you the following report of the operations carried on in this mine since the 8th June, the date of our last general report. In the 80 fm. level the cross-cut has been driven 22 fms. 2 ft. 9 in., and several branches have been intersected, about the place where the Sarum lode might have been expected. We drove a few feet east on these branches, and then resumed the cross-cut, and intersected what we considered to be Marke's lode, and extended on it 5 fms. 2 ft., when, from its character being so different from what we expected, we are now in doubt whether it was Marke's lode, and we are now driving south, with a view to be quite certain, and, from the present appearance of the end, we have reason to suppose this lode is still before us. The 65 fm. level has been extended 11½ fms. east on the south part of Sarum lode, and a cross-cut driven north 5 fms. 2 ft. to intersect the north part of the lode, and effect a communication with Lambert's winze. Until lately the south part of the lode has been generally unproductive, but at present it is yielding some saving work, and we expect that we have reached the shoot of ore discovered a short time since in the 50 fm. level; the cross-cut which was suspended at the recommendation of the agents who inspected the mine, immediately previous to the last general meeting, has been resumed, and driven 1 fm. 1 ft. 7 in., when the south part of Sarum lode was intersected, and which proved to be worth 40*l.* per fm. We have extended 4 fms. west on this lode, and sunk 6 fms. on the course of it; at present it is yielding 6 tons of ore per fm., and worth about 35*l.* per fm. This level (the 50) has also been extended 5½ fms. eastward, and another cross-cut driven, at about 7 fms. from the last-mentioned one. We had to drive 7½ fms. to get entirely through the lode. We are now driving westward, so as to communicate with the next cross-cut. The lode in the present western end is 7 or 8 ft. wide, and producing 3 tons of good ore per fathom; in the eastern end it will produce four tons per fathom, and we shall commence driving on it as soon as the other end is holed. We have three pitches working,—the first, in the back of the 50 fm. level, on the north part of Sarum lode, is set to four men and a boy, at 8s. in the 1*l.*; a large portion of our returns has been made from this pitch, and it is still looking very well; the second is in the bottom of the 50 fm. level, also on the north part of the lode, and set to six men, at 10s. in the 1*l.*, and is yielding about 25 tons of ore per month; the third is in the bottom of the 50 fm. level, on the south part of Sarum lode, and set to six men, at 8s. in the 1*l.*; the lode in this pitch is large, and is composed of peach, prian, and ore, of a much better quality than that from the north part of the lode; its general character is highly promising, and there is every prospect of its continuing to improve. Considering the great improvement that has taken place in our eastern workings, in the 50 fm. level, and the present appearance of the lode in the eastern end in the 65 fm. level, we feel confident that, when more ground shall have been laid open in this direction, the returns will more than cover the costs, and, at no distant period, the mine will become profitable.—The report having been read, and which was deemed by the meeting to be of a highly satisfactory and encouraging nature, it was ordered that the same be entered on the minutes.—Mr. Wolferstan having tendered his resignation as manager of the mine, the same was accepted, and Capt. James Seccombe appointed in his stead; and it was further resolved, that Mr. Wolferstan be authorised to appoint an agent to act under Capt. J. Seccombe.—A general conversation ensued on the prospects of the mine; and from the information elucidated from the enquiries made, which were very readily replied to by Mr. Wolferstan, who was present, and entered very fully into the several points of working, and the prospects held out, such was considered highly satisfactory.—A vote of thanks was unanimously passed to Mr. Wolferstan for the services rendered by him in his capacity as manager of the mine, and which was briefly responded to by that gentleman, thanking the shareholders for the confidence they had ever manifested, and the readiness with which they had concurred in any suggestions made by him from time to time, which he considered might be conducive to the interests of the company.—A vote of thanks to the chairman having been passed, the meeting separated.

NORTH UNITED MINES.—We gave an account, in last week's Journal, of the financial position of this company's affairs, as shown by the accounts presented at the late meeting; we now append the report read thereat from Capt. N. Hocking:—Since our last meeting, we have made the north shaft good to the 90, and have commenced driving east and west; the lode in these ends is about 2 ft. wide, and composed of iron, mundic, and copper, but worth nothing for saving as yet; we believe by extending these levels with other cross-cuts we will give the mine a fair trial, as it is the general opinion that our shaft is down to

a fair depth for copper. The eastern end in the 90 is about 8 ft. from the shaft, the ground about 4*l.* 10s. per fm.; the western end is about 6 ft. from the shaft, ground about 5*l.* per fm. We have never seen the lode so large and regular as it is at present, and we believe, if we could intersect a small branch of copper driving on this lode, we should at once have a good mine. In the 75 fm. level east, we are now driving in a hard bar of ground, and by reason of this the lode is small; from the appearance of the ground in the upper levels, we expect soon to get into a different strata; in the 75 fm. level west, we have driven 26 fms. from the shaft, and cut a cross-course; 6 or 8 ft. before we cut the cross-course, the lode in the end was very small, but when it was at the smallest there was good ore with it. About 19 fms. from the shaft the lode split into two branches, one branch looking south, 57° west, and the other south 73° west; this branch we continued to drive on until we cut the cross-course; finding the lode poor, we thought proper to cut into the south side to find the other branch; this we have done, and find the lode about 3 in. wide, saving work; the ground at present is hard, but we believe the ground will soon ease as we near the cross-course, at which we hope the lode will become larger. The 60 fm. level north is driven about 36 fms. out under the sea. We have been expecting for months past to cut one of the three lodes which are seen running in this direction from Carn Nean Point. We continue to extend this level, which we think is a very fair speculation.

GRAMBLER AND ST. AUBYN.—A meeting of adventurers was held on Tuesday last, when the accounts, of which the following is an abstract, were passed:—Balance due at last account, 138*l.* 9s. 6d.; costs and merchants' bills for Jan. and Feb., 1169*l.* 11s. 6d. = 1308*l.* 1s.—By ores sold (less dues), 1164*l.* 11s. 3d.: leaving balance due to purser, 143*l.* 9s. 9d.

TAVY CONSOLS.—A general meeting of adventurers was held at the Central Hall, Plymouth, on Tuesday, the 6th inst.—JOHN PAULL, *Esq.*, in the chair.—A statement of accounts was submitted, showing balance in favour of mine of 248*l.* 5s. 5½d., which, having been examined and found correct, was allowed and passed. A call of 10s. per share was made, payable to the purser immediately; and the following shares were forfeited to the company, according to the 4th section of the rules and regulations agreed to by the shareholders, for conducting and prosecuting this mine—viz.: R. Mashford, 2 shares, 5 calls due; J. Richards, 1 share, 4 calls due; J. Pearce, 5 shares, 4 calls due; Mary Snell, 1 share, 4 calls due; J. Cundy, 11 shares, 4 calls due; W. Andrews, 1 share, 3 calls due; R. Williams, 2 shares, 4 calls due; T. Williams, 19 shares, 3 calls due; W. Rodda, 1 share, 3 calls due; W. Matthews, 1 share, 3 calls due; I. Williams, 1 share, 3 calls due; G. Trenwith, 4 shares, 3 calls due; R. Sleeman, 2 shares, 2 calls due; J. Chynoweth, 2 shares, 2 calls due; J. Dillworth, 1 share, 2 calls due; H. Fox, 2 shares, 2 calls due.—The thanks of the shareholders were given to the gentlemen constituting the committee of management for the last two months; and the following gentlemen were elected to form the managing committee for the next two months—viz.: Mr. Rendle, Capt. J. Paull, Capt. Bulkeley, Admiral Tremlett, and Mr. J. Foy. No shareholder is eligible to hold the office of committee-man, unless he be a mine agent, or hold 20 shares in his own right, in the books of the company. The meeting authorised the committee to look out for and engage an efficient mine agent, to assist in superintending the works of the mine. Capt. Martyn's salary is to be raised 1 guinea per month.—The following captain's report was then read, considered satisfactory, and the suggestions therein contained referred to the managing committee:—For the last two months we have been stoping the back of the 12 fm. level, and I am happy to inform you that it has proved quite as productive as we anticipated when driving the said level. We sampled on the 25th of March last, 50 tons 15 cwts. 3 qrs. of copper ore (dry). Have not yet the price, but consider it worth upwards of 6*l.* per ton; and have now dressed and broken underground, and on the floors, 40 tons of the same quality. The stopes are still looking very well, some parts of it worth upwards of 12*l.* per fm.—let on Saturday, 10 fms., at 2*l.* 17s. 6d. per fm. On the completion of the machinery, we shall commence driving the 12 fm. level, west of cross-course, where we may expect a very good lode, as in the shallow adit it was from 6 to 7 ft. wide, and 5 ft. of it very good work. We shall also commence driving the 24 fm. level, and from its appearance in the 12, we may also expect it to prove very productive; therefore, to make greater despatch, which will also effect a considerable saving in dressing, I would recommend the immediate erection of a grinder, which can be attached to the engine-wheel, as we have sufficient power for working it. We are progressing fast with our surface work; the water-course will be completed in about a fortnight, and I hope to put the engine to work early in May. Our parcel of lead ore sold at 13*l.* 9s. per ton. The water-wheel will, I think, be of sufficient power to keep the water 150 fms. deep.—A. W. MARTYN.—Mr. P. Fisher (purser), in communicating the foregoing particulars, says—"I particularly beg to call your attention to the captain's report, by which you will find we sampled 50 tons 15 cwts. 3 qrs. of copper ore (dry), on Thursday week last, and the quality is better than the last parcel, and about 4 tons of silver-lead ore—we have also many tons of copper ore now on the mine, and in process of dressing. A call of 10s. per share has been determined upon, to be paid immediately, in order to prosecute the works with vigour, and to pay for pumps and machinery necessary for conducting the works and dressing department on the most economical plan."

WHEAL BUCKETTS.—A meeting of adventurers was held at the account-house, on Tuesday, the 6th inst., when the following statement of accounts was presented:—To balance, short paid on division of cash, 14s. 2d.; January tutwork cost, 352*l.* 11s. 5d.; January tribute cost, 5*l.* 9s.; February tutwork cost, 370*l.* 3s. 9d.; merchants' bills, 451*l.* 8s. 8d. = 1180*l.* 7s.—By copper ores sold, less dues, 596*l.* 8s. 9d: leaving balance due of 583*l.* 18s. 3d.—The accounts having been examined, the balance was divided, and forthwith collected. It was then resolved, that the sinking of the sump shaft be at once commenced; and, that the agents be instructed to make the necessary alteration in the pit-work, and also that they get another boiler as soon as possible, and that they purchase a crusher for the mine at once.—The following report, from Capts. W. Webb and W. Truren, was read to the meeting:—Since the last meeting of the adventurers, we have cut the new lode in the 40 fm. level, both east and west, and from what we have seen of it, it has been equal to our expectations; we have driven on the eastern part about 10 fms., lode averaging from 1 ft. 6 in. to 3 ft. wide, producing about 3 tons per fm.; the western part of the lode is about 14 or 15 in. wide, with ore all through—we have not driven many ft. on this past—the lode has a very promising appearance, but not rich. The 30 fm. level east, on the new lode, has been driven since the last account about 20 fms. through a good lode, producing about 2 tons per fm.; and the end is still looking well—we have two pitches working in the back of this level, one at 5s. and one at 2s. 6d. in the 1*l.*; in the 30 fm. level west the lode has been small and poor for several fms., but is now improving—at present the lode is 1 ft. wide, with ore throughout. In the 20 fm. level east we have had a good lode for the last 10 fms. producing about 2 tons of ore per fm.; and the end is still looking well; we have a pitch working in the back of this level at 4s. in the 1*l.*; the end, driving west in this level, is poor. The 12 fm. level has been driven about 7 fms.; the lode at present is small, but we expect an improvement soon, as we have a large lode in the back of the 20, a few fms. east of the present end. We have just commenced driving the 40 fm. level east, on the old lode; the lode is about 2 ft. wide, with ore throughout—it has a very promising appearance, and we anticipate much good from it shortly. We are not driving the 20 and 30 fm. levels on this lode at present; we have put the men from the 30 end to drive north to cut the north branch. We have one pitch working in the back of the 30, at 3s. in the 1*l.*, and three pitches in other parts of the mine, at 12s. in the 1*l.*, on the same lode. We have not yet cut the lode in the cross-cut north, in the 40 fm. level, from the engine-shaft, although we have driven the distance we calculated to cut it; for the last 10 fms. we have driven through a channel of elvan, which we think has thrown the lode out of its regular course, and that it will not make until it gets clear of the elvan. We have commenced sinking a new shaft in the eastern part of the mine, large enough to take pit-work, should another engine be required. An opportunity having presented itself, of exchanging some of our present pitwork for a larger and more suitable size for the mine, and also a very good boiler of 11 tons at a very moderate price, we strongly recommend to the adventurers, that the alterations be made without delay, as a very considerable saving in coals will be thereby effected—the probable expense of which will be 150*l.* From the present appearance of mine, we calculate on being able to sample, for the current two months, about 250 tons of ore.

WHEAL SETON.—The two-monthly meeting of adventurers was held at the mine, on Tuesday last, when the accounts—showing balance in favour of mine, 401*l.* 2s.—were presented, examined, and passed—a dividend of 20*l.* per share was declared, and a balance of 2036*l.* 2s. carried to next account.—The cost for January was 1155*l.* 19s. 11d.; February, 829*l.* 2s. 10d.; merchants' and foundry bills, 1033*l.* 16s. 5d.=3018*l.* 19s. 2d.—Copper ore sold, December 31, 1542*l.* 16s. 9d.; ditto February 4, 3700*l.* 12s. 6d.; blende sold, Feb. 4, 114*l.*=5357*l.* 9s. 3d.; less dues, 356*l.* 15s. 10d., leaves 5000*l.* 13s. 5d.: showing profit of 1981*l.* 14s. 3d.; add balance due from purser, to end of Dec., 2034*l.* 7s. 9d.=4016*l.* 2s.; deduct dividend of 20*l.* per share, 1980*l.*—leaves balance now in hand, 2036*l.* 2s.—The following report from Capt. Stephen Lean was read to the meeting:—There is nothing done in the 90 fm. level east, on Bull's lode, since the last account, the men being employed in taking down the lode in Bull's shaft, dividing, &c.; they are now in a position to resume the working in 90 east, which will be done without delay. In the 80 fm. level west, on the south caunter lode, is 2 ft. wide, containing stones of copper; we have intersected Knesbone's branch here in the past week, which is 3 ft. wide, composed of spar, mundic, and stones of ore. In the 70 fm. level west, on ditto, lode is 2 ft. wide, more promising than when last reported on, being now free from the slide, by which it has been disordered. In the 60 fm. level, on ditto, lode is 6 ft. wide, worth 40*l.* per fm.—the stopes in the back of this level are worth 40*l.* per fm.; in the winze, sinking below this level, down 9 fms., lode worth 15*l.* per fm. The 80 fm. level west, on the north caunter lode, has been worth 50*l.* per fm., but is now worth 60*l.* per fm.; we are carrying the rise, in the back of this level, about 6 ft. of the lode, which is worth 60*l.* per fm.; there are 2 fms. further to rise to communicate to the winze, which is sunk 7 fms below the 70, but we were obliged to suspend operations, in consequence of the water; in the 70 fm. level west, on ditto, the lode is 6 ft. wide, and no south wall—worth 40*l.* per fm.; the stopes in the back of this level are still worth 150*l.* per fm. In the 60 fm. level west, on ditto, lode is worth 140*l.* per fm.; the stopes in the back of this level are worth 150*l.* per fm. In the 50 fm. level west, on ditto, lode is worth 20*l.* per fm.; the lode in the rise, in the back of this level, is worth 40*l.* per fm. In the 40 fm. level west, on ditto, lode is still disordered by a limb of a cross-course. The ground in the 60 cross-cut north is favourable for driving. Tilly's shaft is in course of sinking below the 30 fm. level—down 4 fms., ground favourable. Cock's engine is now in good condition, and the pit-work nearly completed, and will be in a state of working by the end of the week.

WHEAL TREMAYNE.—A meeting of adventurers was held at the offices, George-yard, Lombard-street, on Tuesday the 13th inst., when the accounts were presented, showing a balance of 224*l.* 11s. 8d. in favour of the mine, which were examined and passed. It was resolved, that the sum of 1300*l.*, agreed to be paid by the Wheal Tremayne adventurers to the Wheal Providence adventurers, on the re-arrangement of the company, be brought forward on the face of the accounts, with a view to its immediate reduction, by the profits made and accruing. The following is a statement of the accounts:—

Feb. 9.	By balance brought from last account			£82	17 3
11.	By sale of copper ore (181 tons. 16 cwts. 2 qrs.)	£1000	15 2		
19.	Black tin, 14 tons 2 cwts. 3 qrs. 5 lbs.	766	19 2		
Nov. 19. 27.	ditto 17 tons 16 cwts. 3 qrs. 15 lbs.	967	0 11		
	Arsenic, 10 tons	35	0 0—	2769	15 3
				£2852	12 6
To cost for January, 1847, labour and miscellaneous		£922	2 3		
Merchants' bills		357	0 6		
To cost for February, labour and miscellaneous		1056	9 3		
Merchants' bills		293	9 3—	2628	1 3
	Leaving balance			£224	11 3
For stock of tin, &c., purchased from old adventurers, as per resolution of meeting on 14th November, 1846 (no part being yet returned)				£1300	0 0
	Balance against the company			£1075	8 9

WHEAL VYVYAN.—An account of ground broken, tinstuff stamped, &c., and copper ore and tin sold, from January to December, 1846:—

	Total.	*Monthly Average.*
Number of men underground	717	60
Number of fathoms broken	1127 fms. 3 ft. 3 ins.	93 fm. 5 ft 9 in.
Amount of men's gettings underground	£2043 12 8	£170 6 0
Average per month, £2 17s. each man.		
Amount of gettings, spalling tinstuff	£188 15 11	£ 15 14 8
Amount of ore dressing cost	170 12 2	14 4 4
Amount of tin ditto	982 7 9	81 17 4
Number of sacks stamped (12 gallons)	162,578	13,548
Weight of copper ore	280 tons 17½ cts.	23 tons 9 cwts. 2 qrs.
Amount of money	£1052 5 3	£ 87 13 9
Average, £3 10s. 6d. per ton.		
Weight of tin	125 tons 12¾ cwts.	10 tons 9 cwts. 1 qr. 18 lbs.
Amount of money	£6265 3 8	£522 1 11
Average, £49 18s. per ton.		
Amount of all agency, captains, purser, and clerk	£ 172 10 0	£ 14 7 6

[We have been favoured with a detailed statement, of which the foregoing is a summary; had space permitted, we should have gladly inserted the entire, as an example of the excellent system of management pursued at this mine.]

WHEAL ANDERTON.—A small parcel of tin has been sold at 49*l.* per ton, and another parcel in course of dressing—the sample gives 14¼ for 20. The operations at the mine are steadily progressing.—JAMES CARPENTER.

PROFIT ON ENGLISH MINES.

DIVIDENDS PAID ON THE FOLLOWING MINES IN CORNWALL AND DEVON IN 1846.

Name of Mine.	*Shares.*	*Calls.*	*Price.*	*Dividends.*	*Total Div.*
Wheal Maria	1024	£1	£500	£37	£37,888
East Wheal Rose	128	50	1200	240	30,720
Carn Brea	1600	15	100	12	12,000
West Caradon	256	20	200	32½	8,320
South Caradon	128	10	400	50	6,400
North Roskear	70	10	100	65	4,550
East Wheal Crofty	94	10	310	42½	3,995
Wheal Trelawney	200	7½	125	12	3,120
Trethellan	120	5	20	20	2,400
Tresavean	96	10	220	18	1,728

Wheal Friendship has paid 270,000*l.* clear profit, and, taking 28 mines in these two counties, the dividends paid in 1846 amounted to 158,838*l.* The paid-up capital on them amounts to 190,000*l.*, and their market value, according to the share list, is 1,343,000*l.* The interest paid, therefore, in 1846, is upwards of 80 per cent. on the paid-up capital, and about 11 per cent. on the market value. The 10 mines above-named, paid in 1846 upwards of 375 per cent. on the paid-up capital.

DARTMOOR CONSOLS TIN MINES.—The prospectus of this company has, together with some accompanying documents, been forwarded to us for perusal. The object of the association is, it appears, to continue, or rather to resume, certain works which were privately commenced in 1844, for the procuration of tin, in the parish of Sheepstor, in the county of Devon, which locality is represented by the different reports appended to the prospectus, as being most favourable for the production of this valuable metal, and as presenting what are considered good indications. The name of a gentleman well known in the commercial circles of the City, is the first on the list of the committee of management, which is, of itself, a reasonable guarantee for the respectability of the undertaking, and for the proper administration of the affairs of the company. The association is to be conducted on the Cost-book principle, which enables shareholders to determine the extent of their responsibility.—*Morning Post.*

ATMOSPHERIC RAILWAY.—The line from Paris to St. Germain was inaugurated and opened for traffic on Wednesday last, and continued in operation all the day, with the greatest regularity.

THE SHREWSBURY AND BIRMINGHAM RAILWAY ACT AMENDMENT AND BRANCHES was the first taken by the Committee of the House of Commons yesterday, being the only bill on which the Standing Orders' Committee had reported with respect to the capital of the company. Mr. Baker, the assistant engineer of the company under Mr. Robert Stephenson, stated that both the branches—one from the main line to Madely, 4½ miles in length, to cost 90,000*l.*, and the other to Colebrook Dale and Ironbridge, 1½ mile in length, and to cost 65,000*l.*—traversed important manufacturing and mineral districts, and would be highly advantageous to them, by affording a short route, as the Shropshire iron was mixed with that of South Staffordshire—one branch would cross the Severn. The chairman declared the preamble proved.

BIRMINGHAM AND OXFORD RAILWAY—MOZLEY *v.* ALSTON.—This case was resumed on Tuesday, in the Vice-Chancellor's Court. Mr. J. Parker and Mr. Wilcock were heard on the same side with Mr. Bethell, in support of the bill. His Honour, the Vice-Chancellor, gave judgment. It was (he said) quite clear that there ought to have been such a proceeding in February last, as would have produced a ballot for four directors; and the consequence has been, that the 12 directors who refused the ballot are filling a place in which they ought not to be. His Honour then referred to the proceedings at the meetings which were held in February and March last, when a general meeting attempted to exercise those powers, the existence of which had been so often referred to, but in vain. And is it not a mockery, said his Honour, to hold general meetings over and over again, when the efficiency of one has been tried and found unavailing? After that failure nothing was left but an application to the courts of justice. His Honour apprehended that every single shareholder had a personal interest that the affairs of the company should be carried on in accordance with the provisions of the Act, and that no persons should arrogate to themselves a mode of dealing with the company, which should virtually set them above the Act of Parliament. His Honour was also of opinion that the bill would not have been sustainable if the company in its incorporate capacity had not been made a party to it. There was no substantial difference between an active of mischievousness and an injurious passiveness on the part of the company. The conduct of the directors was the foundation of the complaint, and the inertness of the company was a reason for coming to the court for relief. With reference to what was urged, that the proper relief might be had upon a mandamus, his Honour said the court was not going to determine what course should be taken for the purpose of appointing proper directors. The bill only asked to restrain the present directors from acting; and that was a species of negative relief which it was competent for the court to give, although it might not be able to carry out the general provisions of the Act. The demurrer must be overruled. The other demurrer and motion were argued on Wednesday, Thursday, and yesterday, after Sir Fitzroy Kelly, on behalf of the defendants, had resumed his arguments, the Vice-Chancellor inquired, whether the Oxford and Birmingham Railway Company, in their corporate capacity, had been served with notice of the application for the injunction; and, upon being answered in the negative, his Honour ordered the motion to stand over to Tuesday next.

MONMOUTH AND HEREFORD RAILWAY.—Mr. H. E. Scott, of London, has taken a contract—the Ballingham and Fawley tunnels between Ross and Hereford, on the Monmouth and Hereford Railway—under Mr. Brunel. It comprises 1900 yards of tunnelling in red sandstone.—*Railway Record.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 7 per Cent., 195 3
3 per Cent. Reduced Ann., 86½ ¼ ½
3 per Cent. Consols Ann., 87 6½
3 per Cent. Annuities, —
3¼ per Cent. Ann., 87½ 8
Long Annuities, 9 8½
India Stock, 10½ per Cent., —
3 per Cent. Consols for Acc., 86 ½
Exchequer Bills, 1000*l.* 2d., 2dis. 1 2pm.
Belgian Bonds, 4½ per Cent., 96½ 6
Dutch, 2½ per Cent., 58½ ½
Brazilian, 5 per Cents., 83½
Chilian, 6 per Cents., 91½
Mexican, 5 per Cents., 20½
Spanish, 5 per Cents., 25½
Ditto 3 per Cents., 36½ ½
Portuguese, 4 per Cents., 34½
Russian, 5 per Cents., 109½

Mines.—There has been a manifest improvement in the mining share market this week. The transactions have not been confined to one particular district, but we learn that shares in mines throughout the two counties have passed hands, and the prospect of a busy week before us.

We omitted last week to notice the dividend of 6*s.* per share declared at the Treleigh meeting.

At Wheal Seton meeting, held on Tuesday last, a dividend of 20*l.* per 99th share was declared, reserving a balance of upwards of 2000*l.* in hand—the mine itself looking admirable. North Roskear is reported to be looking exceedingly well; and as it is stated that the next sampling will be considerably above the former, buyers are to be found both in the county as well as here. South Wheal Francis shares are also sought after, and the mine is reported to be looking extraordinary well. Wheal Sisters have been in demand, but we are not advised of many transactions. Condurrow shares are inquired for, but not at former quotation. Some business has been done in Wheal Ash and Wheal Franco near Tavistock; the prospects of the former are highly favourable, and there is little doubt but much will be done in these shares; there are still buyers of Wheal Francos. In Dartmoor Tin Consols, we learn that several large transactions have taken place, both here and in the county, and we have every reason to think that much business will be effected in them; and especially as our contemporary, the *Morning Post*, has noticed this adventure in its money article of yesterday.

Transactions in the following shares have been done this week:—Treviskey and Barrier, West Trethellan, South Wheal Francis, West Wheal Jewel, Treleigh, Tamar, Drake Walls, West Seton, West Providence, Wheal Tremayne, Gwinear Consols, Hingston Down Consols, Dartmoor Consols, Wheal Trelawney, Wheal Mary Ann, Wheal Martha, Wheal Elizabeth, Herodsfoot, Herodscombe, Wheal Franco, Stray Park, &c.

In the foreign share market, the principal feature of attraction has been the new company, called the Kinzigthal Mining Association in 5000 shares, of 20*l.* each, deposit of 2*l.*, which shares have been done at 3½ or 1½ premium. Australians have been rather flat this week, although some business has been done. In Bolanos, Asturians, Mexicans, and Del Montes, some shares have changed hands.

Railways.—The market during the week has been very stagnant, and transactions limited; but, notwithstanding, there has been no disposition to force sales. The chief business done has been in Birmingham and Oxford Junction, Eastern Counties ditto (York Extension), York and North Midland, &c. In foreign shares the same apathy has prevailed—this is chiefly attributable to the unsteady state of the money market. The Liverpool market has been more active, but a want of confidence was still manifested. At Manchester, Birmingham, Leeds, and Bristol, prices have been steady, but business rather limited.

Meetings.—Manchester, Sheffield, and Lincolnshire: special meeting; for submitting to the proprietors the drafts of 12 bills, now being prosecuted by the directors in Parliament, which were approved of unanimously. The Sheffield station, &c., is estimated to cost 180,000*l.* The whole capital required for carrying out the 12 bills was stated to amount to 1,847,440*l.*!—Manchester and Leeds: special meeting; the first business was under the Standing Orders of the House of Lords, and was merely to give the proprietors a second opportunity of signifying their assent to the bills they might have before Parliament, before they were proceeded with in the Upper House; the bills were agreed to. The additional capital required for the new lines, supposing them to be carried, was estimated at 1,262,700*l.* The resolutions were all passed.—Exeter and Crediton: special meeting; to consider the propriety of reducing the number of directors, from ten to six, making four a quorum, and determining who should go out of office. The chairman refused to put the motion as illegal, and entered into a defence of the directors' policy. It was contended, that the Vice-Chancellor, by granting the injunction against the directors, had pronounced the present proceedings legal; after some warm remarks, a resolution, affirming the heads of an agreement with the Taw Vale Company, was carried; also, resolutions passed, restricting the directors from opening the line on the broad gauge, or incurring further expense in completing the junction with the Bristol and Exeter Railway, and directing the secretary to obey the reduced board of directors, and affix the company's seal to the foregoing resolutions.—Preston and Longridge: half-yearly meeting: the report of the directors was adopted; a dividend of 19*s.* per share—7*s.* payable on the 17th inst. (this day), and 12*s.* on the 31st of July—was declared, and a balance of 325*l.* voted to the directors for their services, having received no remuneration for eight years.—Demerara: first meeting, from the report, it appears that the cost of the construction of this railway, with all its accessaries, will, probably, not exceed 165,000*l.*, being at the rate of 8000*l.* per mile. The whole of the expenditure incurred by the committees at home and abroad, from the formation of the company in June, 1845, to the 31st of last month, including all engineering and surveying expenses, cost of implements, &c., amounts only to the sum of 5832*l.*: leaving a balance of 28,570*l.*

HULL, Thursday.—The markets, since our last, have been much depressed. This morning brings a somewhat better list from London; but whether it is an indication that we have reached the bottom, or merely that the bears are making up their books for this account, must be left for the next few days to decide. It is certain, that, for those who do not hold railway shares, the present is an excellent opportunity for investment, even if they lay out more money, at lower prices, by-and-bye. Many shares that are selling at discounts now, will be wanted at premiums some day or other.

LEEDS, Friday.—The share market has fluctuated considerably during the week; prices continued to decline till Monday, when there was almost a panic in the market, with a great amount of stock offering; since then holders have shown more confidence, and shares, although not particularly buoyant, have somewhat recovered from the severe depression. To-day, the favourable character of the American news has given more animation to the market.

RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730 miles of railway, was 152,059*l.*, thus accounted for:—79,194*l.* for the conveyance of passengers only, 39,794*l.* for the carriage of goods, and a remainder of 33,071*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 20,986*l.*, when the mileage was about 1,920.

Name of Railway.	Lgth. Rway.	Present actual cost.	Last Div.	Traffic Returns. 1847			1846
Arbroath and Forfar	15	£142,900	3 p. c.	£240	3	10½	£ 288
Chester and Birkenhead	15	658,293	2½	779	1	1	752
Dublin and Drogheda	35	689,248	3½	846	19	3	610
Dublin and Kingstown	6	349,736	9	681	0	7	784
Dundee and Arbroath	16½	156,323	6	287	14	6½	252
East Lancashire	28	814,417	—	866	7	2	—
Eastern Counties	181½	6,513,026	7	10061	4	8	8147
Eastern Union	17	227,253	—	531	0	0	—
Edinburgh and Glasgow	46	2,112,136	6	3348	16	6	3369
Glasgow, Paisley, and Ayr	53	1,567,281	7	2404	14	1	2246
Glasgow, Paisley, & Greenock	23	835,918	2	1132	3	3	942
Great Southern and Western	56½	1,343,718	—	1430	17	9	—
Great Western	241	9,714,939	8	19653	7	3	18777
Ipswich and Bury	26½	303,768	—	477	0	0	—
London and North Western	378½	18,042,004	10	39076	17	7	36036
London and Blackwall	4	1,102,717	1½	924	10	6	962
London, Brighton, & South Coast	112	5,109,667	7	7167	0	0	5081
London and South-Western	127	4,278,789	9	7563	3	4	0402
Manchester & Leeds	117½	5,036,391	5½	8183	14	1	—
Manchester, Sheffield, & Lincolnsh.	49½	1,678,108	5	2135	4	8	—
Midland Company	329½	7,862,274	7	18660	5	7	16165
Newcastle and Berwick	9	1,184,079	5	833	19	4	—
Newcastle and Carlisle	65	1,184,080	5	2165	2	9	1663
Norfolk	70½	1,199,689	7	1879	1	5	1405
North British	72½	1,459,958	—	1427	14	5	—
Preston and Wyre	30	432,014	2½	557	17	7	503
Shrewsbury and Chester	15	354,945	—	468	0	0	—
South Devon	20	1,061,283	5	622	2	8½	—
South-Eastern	140½	5,888,411	3½	9100	1	4	7083
Taff Vale	30½	888,411	6½	1467	10	2	1075
Ulster	25	358,353	5½	992	11	2	760
York and Newcastle	183½	1,712,317	9	7877	18	7	—
York and North Midland	162½	2,483,256	10	5789	2	5	4921

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Adair's Main 14—Chester Main 15 6—Dean's Primrose 15—Dipton Tanfield 14 6—Holywell Main 15 6—New Tanfield 15—North Percy Hartley 16—North Wylam 13 9—Tanfield Moor 16 9—Wylam 15—Wall's End Brown's 14 6—Gosforth 16 9 Hotspur 15 9—Harton 16 3—Hedworth 14 6—Hedley's Beamish 13 9—Killingworth 16 6—Wharncliffe 16 9—Eden Main 17—Belmont 17—Bell 17 3—Haswell 19—Hetton 18 6—Keepier 17—Lambton 18 3—Russell's Hetton 18—Stewart's 18 6—High Thornley 16—Heugh Hall 17—Kelloe 18—Cowndon Hartley Steam 14—Denison 16—Seymour Tees 17 6—Anthracite 23 6—Cowpen Hartley 17—Derwentwater Hartley 16—Howard's West Hartley Netherton 17—Llangennech 22 6—Sidney's Hartley 17—Caradoc 18 3.—Ships, 135.

WEDNESDAY.—Buddle's West Hartley 17—Dipton Tanfield 14 6—Holywell Main 15 6—New Tanfield 15—North Percy Hartley 16—North Wylam 13 9—Wylam 15—Wall's End Bewicke and Co. 16 9—Brown's 14 6—Gosforth 16 9—Hedworth 14 6—Hilda 16—Wharncliffe 16 9—Eden Main 17—Belmont 17—Braddyll's Hetton 18 3—East Hetton 16 6—Haswell 19—Hetton 18 3—Lumley 16 6—Lambton 18 3—Russell's Hetton 18—Shotton 17 9—Stewart's 18 6—Whitwell 16 6—Cassop 17 6—Hudson's Hartlepool 17 6—High Thornley 16—Adelaide 18 3—Cowndon Tees 16 9—Tees 18 3—Cowpen Hartley 17—Derwentwater Hartley 16 6—Sidney's Hartley 17.—Ships at market, 104; sold, 74.

FRIDAY.—Dean's Primrose 15—Dipton Tanfield 14 6—Holywell Main 15 6—New Tanfield 15—Tanfield Moor Butes 15—Twizel Main 15—West Hartley 17 3—Wylam 15—Wall's End Brown's Gas 14 6—Bell Robson 16—Harton 16 6—Hilda 16—Killingworth 16 6—Riddell's 16 6—Eden Main 17—Belmont 17 3—Braddyll's Hetton 18 3 to 18 6—East Hetton 16 6—Haswell 19 3—Hetton 18 9—Keepier 17 6—Lambton 18 6—Russell's Hetton 18 6—Shotton 18—Stewart's 18 9—Whitwell 16 9—Hudson's Hartlepool 18—High Thornley 16—Kelloe 18 3—Adelaide 18—Barrett 16 6—Brown's Deanery 16 6—Cowndon Tees 16 3—Gordon 15 6—Tees 18 6—West Tees 15 6—Cowpen Hartley 17 3—Derwentwater Hartley 16 9—Howard's West Hartley Netherton 17 3—Llangennech 22 6—Sidney's Hartley 17 3.—Ships at market, 109.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7	12
512	Albert Consols	½	3
1024	Alfred Consols	4½	40
235	Andrew and Nangiles	28½	18
10000	Ayrshire Iron Company	2½	2½
128	Balnoon Consols	25	25
10000	Banwen Iron Co.	2	—
1000	Barristown	4½	25
4000	Bedford	2½	3½
128	Besore Lead Mine	14	10
320	Birch Tor Tin Mine	21½	14½
3000	Blaenavon	50	40
100	Botallack	175	225
120	Brewer	5	7
10000	British Iron, New, regis.	10	17½
—	Ditto ditto, scrip	10	19
128	Budnick Consols	52½	40
128	Burthy	20	21
100	Bwlch Cwmerfin	20	—
128	Callestock	17	70
1000	Callington	19	29
256	Caradon Consols	47	4
256	Caradon Copper Mine	9½	1
256	Caradon Mines	22½	30
256	Caradon United	24	15
256	Caradon Wh. Hooper	20	3
1000	Carn Brea	15	100
2048	Carmarthen Consols	2	5
112	Charlestown	200	100
166	Cleveland	9	1½
1900	Combmartin	7½	4½
1000	Comblawn	½	2
128	Comfort	45	80
256	Condurrow	20	20
2560	Cook's Kitchen	2½	4
1000	Copper Bottom	1	5
1024	Cosheen	4½	20
240	Craddock Moor	15½	15
128	Creeg Braws	120	200
500	Cubert Mine	12	20
2048	Dartmoor Tin	2	3½
7100	Derwent	8½	5
1024	Devon & Courtenay Con.	5½	4
1000	Dhurode	2	5
186	Dolcoath	30	60
2560	Drake Walls	4	4
10000	Durham County Coal	45	9
256	East Alvenney	3	10
112	East Caradon	40	40
2048	East Crowndale	4½	2½
512	East Combe Silver-Lead	6½	6½
128	East Pool	5	20
100	East Relistian	22	35
9000	East Tamar Consols	1½	2½
—	East Wheal Albert	1	3
94	East Wheal Crofty	280	310
256	East Wheal Fortune	2	3
128	East Wheal Rose	50	1200
—	East of Scotland Iron Co.	2½	2½
123	East Wheal Seton	14	20
256	Exmoor Wh. Eliza	3½	10
512	Fowey Consols	40	45
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	½	½
2048	Georgia Tin Mines	1½	2½
1000	Godolphin	25	35
256	Gonamena	21	50
128	Goonvrea	4	½
244½	Grambler & St. Aubyn	—	25
100	Great Consols	1000	400
256	Great Callestock Moors	22	25
2560	Great Michell Consols	1½	5
256	Great Resugga Moor	2	4
512	Gt. Wh. Rough Torr Con.	2	25
1500	Great South Tolgus	2	3
100	Grogwinion	5	—
1000	Gunnis Lake	1½	3
256	Gwinear Consols	5	25
1000	Hanson	14	2
1000	Harrowbarrow Old Mine	6½	3
800	Hawkmoor	3	2
6000	Heignston Down Con.	½	2½
256	Herodscombe	½	4
256	Herodsfoot	14	11½
10000	Hibernian	12½	1
—	Hobb's Hill	4	3
1000	Holmbush	18	14
256	Ivy Tor	1½	2½
827	Kirkcudbrightshire	4½	6
2048	Lanheroe Wh. Maria	9	4
74	Lanarth & Penstruthal	—	8½
2048	Laulvet Consols	4	2
200	Larkholes	1	3
160	Levant	—	90
1000	Lewis	15	8
1280	Llancynfelin	6	10
1000	Llwyn Malees	5	—
256	Lostwithiel Consols	7	7
128	Ludcott	3	3
4000	Marke Valley	10	3½
5000	Mendip Hills	2	1½
20000	Mining Co. of Ireland	7	8½
256	New East Crowndale	3½	3½
128	North Fowey Consols	25	25
100	North Pool	45	130
70	North Roskear	10½	350
512	North Treburget	2	3
100	North United	41	20
256	North Wh. Abraham	½	10
262	North Wh. Leisure	1½	3½
128	North Wh. Providence	2½	7
15000	Northern Coal Co.	23	2
1200	Old Delabole Slate Co.	25	50
2000	Pantdrainlog Slate Co.	2½	3
128	Par Consols	900	1000
1024	Pembroke	1½	6
256	Penhallow Moor	15	4
4000	Pennant	1	3
100	Penrhiw	30	65
256	Pentuan Wheal Mary	2½	5
128	Pen-y-Cefn Mine	50	55
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	90
512	Plymouth Wh. Yeoland	2½	5½–6
2048	Prince Edward	1½	1½
112	Providence Mines	35	45
256	Redruth Consols	3	10
10000	Rhymney Iron	50	30
256	Rose Consols	10	6
1000	Rosewall Hill	1	5
—	Shotts Iron Company	50	70
2500	Silver Valley	4	2½
256	Sourton Consols	3½	3
128	South Caradon	10	400–10
2000	South Dolcoath	2	2
256	Sth. Friendsh. Wh. Ann	14	14
200	South Harvannah	23	26
9000	South Tamar	½	½
256	South Tolgus	2½	20

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
800	South Towan	10	1½
256	South Trelawney	15½	10
128	South Yeoland	16½	20
128	South Wheal Basset	110	90
124	South Wh. Francis	160	210
256	South Wh. Hope	—	5
1000	South Wh. Maria	2½	2
256	South Wheal Rose	11½	1
10000	Southern & Western, Irish	2	4–5
256	St. Austell Consols	8	14
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	7
1000	Stray Park	43	30
9600	Tamar Consols	3	5½
1024	Tavy Consols	4	3
6000	Tincroft	7	9
3000	Tin Vale Consols	½	1½
256	Ting Tang	15	12½
128	Tokenbury	140	17½
256	Tolpetherwin	3½	10
256	Trehane	2	22
5000	Treleigh Consols	6	4
256	Trenow Consols	30	25
96	Tresavean	10	200
120	Trethellan	5	35
120	Treviskey and Barrier	130	180
256	Trewollack	20	20
128	Trewellard	12	26½
6000	United Hills	5	1
100	United Mines	300	500
10240	Victoria Tin	1	1
256	Wellington Mines	15	30
128	West Basset	45	28
256	West Caradon	20	168
128	West Cargoll	2	12
512	West Fowey Consols	40	15
256	West Grambler	7	8
—	West Kekewich Consols	—	3
256	West Providence	9½	18
200	West Seton	40	60
—	West of Scotland Iron Co.	155	169
120	West Trethellan	5	25
256	West United Hills	2½	6
256	West Wh. Friendship	7½	4
3845	West Wheal Jewel	11	2½
2560	West Wh. Maria	1½	1
256	West Wheal Shepherd	5	22½
256	West Wheal Tolgus	21½	4
256	West Wheal Treasury	19	—
5200	Wicklow Copper	5	15½
184	Wheal Adams	41	30
1000	Wheal Agar	—	8
256	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	1½	1
237	Wheal Anderton	16½	31
128	Wheal Ann	—	50½
128	Wheal Arvose	3½	6
1024	Wheal Ash	2½	12
2560	Wheal Barbara	1½	1½
256	Wheal Benny	6½	4½
256	Wheal Blencowe	8	10
256	Wheal Bucketts	20	32½
256	Wheal Byon Consols	½	1
256	Wheal Calstock	3	4
136	Wheal Clifford	190	190
1024	Wheal Concord	6½	3
128	Wheal Courtenay	—	20
6000	Wheal Curtis	1½	½
256	Wheal Dyke	12	13
512	Wheal Elizabeth	2½	3
256	Wheal Fortescue	5½	9½
2048	Wheal Frederick	2	2
384	Wheal Franco	27	27
256	Wheal Gill	19½	9
1024	Wheal Grace	2	2½
128	Wheal Harriet	45	50
2048	Wheal Holwell	1	1½
256	Wheal Jane	11	25
256	Wheal Kekewich	4	4
256	Wheal Louisa	6½	12
112	Wheal Margaret	79	200
256	Wheal Maria (Hayle)	19	27
1024	Wheal Maria	1	400
4000	Wheal Martha Consols	5	1½
256	Wheal Mary Ann	5	50
1024	Wheal Mary (Calstock)	5	1
256	Wheal Mary Consols	34	25
256	Wheal Mary (Lanivet)	6½	4
256	Wheal Maude	1½	1½
128	Wheal Metha	23	92½
128	Wheal Pollard	12½	12
210	Wheal Prospect	4	13
128	Wheal Reeth	1	17
128	Wheal Rose	60	55
20	Wheal Seton	214	800
256	Wheal Sisters	27½	30
256	Wheal Sophia	—	10
1024	Wheal Spearne	1½	8
128	Wheal St. Ann	9	15
260	Wheal Trelawney	7½	124
256	Wh. Tremaine (St. Ervan)	1½	20
256	Wheal Tremayne	35	45
128	Wheal Trew	20	21
256	Wheal Trevenna	3	4
92	Wheal Tryphena	140	150
128	Wheal Venland	12½	10
127	Wheal Virgin	50	60
256	Wheal Vlow (Perranz.)	½	½
188	Wheal Vyvyan	—	3
1024	Wheal Walter	4	2
256	Wheal Williams	2	18

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	4½
15000	Asturian Mining Co.	9	5
20000	Australian	2	8½
10000	Anglo-Mexican Co	100	1
12374	Ditto Subscription	25	2½
3000	Bolanos	150	6¾
2000	Ditto Scrip	15	6
12000	Brazilian Imperial	20	2½
10000	Cobre Copper Co.	40	25½
8500	Colombian Co. regis.	55	4¾ (Colombian Co. regis. and Ditto Scrip together)
5000	Ditto Scrip	5½	
5000	Copiapo Mining Co	14	3½
10000	General Mining Ass'n.	20	15½
5000	Kinzigthal Mining Ass.	2	3¼
20051	Mexican Company	59	—
5000	Mocaubas & Cocaes	25	5¼
29320	Rl. del Monte, regis. / Ditto unregistered	28½	av. 3½
	Ditto Red Debentures	—	16
	Ditto Black ditto	—	14
	Ditto Loan Notes	150	100
7000	Royal Santiago	10	5
2000	Pachuca Mines	4	4½
11000	St. John del Rey	15	7½
13174	United Mexican	28½	3

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

SOUTH AUSTRALIAN SHARE MARKET.

Shares.	Company.	Paid.	Price.
2000	Adelaide	5	6
600	Barossa Range	4	25
2464	Burra Burra	5	100
—	Grand Junction	—	28
200	Greenock Creek	5	13
100000	Scottish Invest. Co.	1	1½
—	Paringa	—	30
—	Poonawurta	—	9½–10
—	Princess Royal	—	259
—	Royal South Australian	—	6½ pm.
600	Victoria	2	2
500	Wakefield	2	2¾

SOUTH AUSTRALIA AND NEW ZEALAND.

Shares.	Company.	Paid.	Price.
100000	North British Australasian (Kaw-aw, &c.)	1	1½

JOINT-STOCK BANKS.

Companies.	Shares.	Paid.	Price.
Australasia	22,500	£40	£22
British North American	20,000	50	44½
London and Westminster	40,000	20	26½
London Joint-Stock	60,000	10	15½
National of Ireland	20,000	22½	19½
Provincial of Ireland	20,000	25	44
Union of Australia	20,000	25	24½
Union of London	60,000	10	12 ½

LATEST CURRENT PRICES OF METALS.

LONDON, APRIL 16, 1847.

	£ s. £ s. d.
Iron—Bar *a.* Wales..ton	8 15— 9 0 0
" ..London	9 17 6 10 0 0
Nail rods "	0 0—10 10 0
Hoop (Staf.) "	0 0—12 0 0
Sheet " "	0 0—13 10 0
Bars " "	11 0—11 10 0
Welsh cold-blast foundry pig	4 10— 5 5 0
Scotch pig *b*, Clyde	3 10— 3 12 6
Rails, average	9 5— 9 10 0
Russian, CCND *c*	0 0— ——
" PSI	0 0— ——
" Gourieff	0 0— ——
" Archangel	0 0—13 10 0
Swedish *d*, on the spot	0 0—11 15 0
" Steel, fagt.	0 0—16 10 0
" " kegs *e*	15 0—15 5 0
Copper—Tile *f*	0 0—97 0 0
Tough cake	0 0—98 0 0
Best selected	0 0 101 0 0

	£ s. £ s. d.
Copper—Ordin. sheets, lb.	0 0— 0 0 11
" bottoms	0 0— 0 0 12
Yellow Metal Sheathing	0 0— 0 0 9½
Tin—Com. blocks *g* ..cwt.	0 0— 4 15 0
" bars	0 0— 4 16 6
Refined	0 0— 4 18 0
Straits *h*	0 0— 4 12 0
Banca	0 0— 4 18 0
Tin-Plates—Ch., IC *i*, box	1 9— 1 11 0
" IX	1 15— 1 17 0
Coke, IC	1 6 6 1 7 0
" IX	1 12 6 1 13 0
Lead—Sheet *k* ..ton	0 0—19 10 0
Pig, refined	0 0—20 10 0
" common	0 0—18 15 0
" Spanish, in bd.	17 10— ——
Spelter—(Cake) *l* on spot	0 0—21 0 0
" " for arrival	0 0—20 0 0
Zinc—(Sheet) *m* export.*	27 0—28 0 0
Quicksilver *n* ..lb.	0 0— 0 4 6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto *e* In kegs ½ and ¾-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent. * For home use it is 32*l.* per ton.

[*From our Correspondent.*]

Iron continues without alteration in prices, but the demand for all descriptions is rather limited. In Scotch pig no sales reported.

Copper is in good request, both for exportation, and home use.

Tin.—The demand for English has fallen off since the reduction on 9th inst.—not in consequence of the orders being less, but because buyers as usual expect a further decline; Straits and Banca are steady at quotations, but no business in either this week.

Tin-Plates and Lead are steady at last week's prices.

Spelter has been in better demand this week for arrival, and a fair business done at 20*l.*—on the spot not much in request.

GLASGOW PIG-IRON TRADE, April 15.—The stringent measures of the Bank of England—the high rates demanded for money, and other causes, have further depressed our iron market; and, for the present, deterred buyers, even at the reduced prices.—There is, however, no disposition to press iron on the market: quotations are, therefore, quite nominal—say, 70*s.* for No. 3; 71*s.* for mixed Nos.; 72*s.* for No. 1—cash, free on board. The shipments at present are very considerable.

PRICES OF METALS IN AMERICA.

NEW YORK, MARCH 31, 1847.

	$ cts. $ cts.
Copper—Sheathing ..lb.	0 23 — 0 0
" Old	0 18 — 0 18½
" Braziers'	0 24 — 0 25
" Pig	0 18 — 0 0
" Bolts	0 24 — 0 25
Lead*—Pig	0 0 — 4 25
" Bar	0 4 — 0 4½
" Sheet	0 0 — 0 5½
Iron—Pig, Eng. & Scotch	0 0 —35 0
" " American, No. 1	0 0 —32 50
" " common	22 50 —25 0
" Bar, RPSI	100 0 102 50
" " Swedish	87 50 —90 0
" " American, old	0 0 —85 0
" English refined	0 0 —85 0
" " common	70 0 —72 50
" Sh. Russian, 1st qual.	0 11½— 0 12

	$ cts. $ cts.
Iron—Engl. & American	0 5½— 0 6
" Hoops do. ..cwt.	5 50 — 6 50
Nails—Cut 4 da. 40 ..lb. (3d 1 c. & 2d 2 c. more)	0 4½— 0 4½
" Wrought, 6 to 20	0 10 — 0 14
" Horse-shoe	0 17 — 0 21
Shot—Patent	0 5½— 0 0
" Buck	0 6 — 0 0
Spelter—In plates	0 5 — 0 5½
Steel—German ..lb.	0 10½— 0 13
" English Hoop L	0 13 — 0 13½
" Spring	0 5½— 0 5
" Trieste ..boxes	0 0 — 0 0
" American	0 4½— 0 5
Tin—Block, South Amer. lb.	0 0 — 0 0
" Ditto, East India	0 0 — 0 0
" In plates, ½ dx. bx.	9 50 — 9 75

* Duty—Pig and bar, 3; old and scrap, 1½; sheet, 4 cts. per lb.

SILVER-LEAD ORE.

The Tenders for (computed) 104 tons, from the Callington Mine, were opened at the offices, Finsbury-square, on the 14th April, 1847.

Firms.	Price per Ton.
Combmartin Smelting Company	£20 15 0
Mullins, Brothers	20 5 0
B. Somers, Esq.	20 3 6
Walker and Co.	20 0 0
R. Michell and Son	19 13 0
Tamar Smelting Company	19 9 6
Newton and Co.	19 0 0
J. T. Treffry, Esq.	18 10 6

BLACK TIN

Sold on the 3d and 6th of April, 1847.

Mines.	Tons cwt. qr. lb.	Price.	Purchasers.
Budnick Consols	3 1 0 0	£57 2 6	Bolitho and Co.
ditto	2 13 0 13	54 10 0	ditto
ditto	1 18 2 6	51 15 0	ditto

There was also a quantity purchased by Daubuz and Co., amounting to 708*l.* 18*s.* 10*d.*, but we have not received the particulars.

Mines.	Cwt's.	Price.	Purchasers.
Wheal Beam (Devon)	15	£15 2 9	Bolitho and Co.
ditto	15	15 2 9	Williams and Co.
ditto	10	49 5 0	Bolitho and Co.
ditto	6	22 0 0	ditto
ditto	22	50 0 0	ditto
ditto	12	47 0 0	ditto

LEAD ORES

Sold, at Holywell, on the 31st of March, and 5th and 8th April, 1847.

Mines.	Tons.	Price.	Purchasers.
Isle of Man (Peel)	59	£12 0 0	Walker and Co.
ditto	21	11 14 0	Walker and Co.
Machynlleth	44	11 17 0	Newton, Keates, and Co.
ditto	2	10 17 0	Walker and Co.
Cwmsebon	48	16 3 6	ditto
Cowarch	36	10 9 0	ditto
Cwmbrwym	7	11 2 0	Newton, Keates, and Co.
East Logylas	89	11 0 0	Walker and Co.
ditto	50	10 18 6	ditto
Frmgoch	11½	10 18 6	ditto
Ditto	11½	10 18 6	Newton, Keates, and Co.
Bog	15	10 18 0	ditto
Darran	14	16 6 0	ditto
Maesyrerudda	28½	11 11 0	Mather and Co.
ditto	10	12 3 6	Newton, Keates, and Co.
Coctia Llys	20½	12 0 0	Mather and Co.
Milwr	2½	11 5 6	Newton, Keates, and Co.
Hendre	90	11 8 6	Walker and Co.
ditto	19	11 2 6	ditto
ditto	8	11 12 6	ditto
Deep Level	45	11 12 6	Walker and Co.
Coulig,	69	11 15 6	Newton, Keates and Co.
ditto	1½	13 5 0	Walker and Co.
Cairnsmore	23	11 7 6	ditto
ditto	7	6 6 0	Newton, Keates, and Co.
Kennyside	6	11 10 0	ditto
Silver Lead	16	22 7 6	Walker and Co.
Froufuonog	12½	11 7 0	ditto
ditto	12½	11 7 0	Newton, Keats, and Co.

Sold at Truro, March 25, and 3d April, 1847.

Mines.	Tons.	Price.	Purchasers.
Wheal Trelawney	66	£15 13 0	Walker and Co.
ditto	16	5 10 0	Combmartin Co.
East Wheal Rose*	97	£13 9 6	B. Somers.
ditto	48	13 15 6	Penpoll Company
ditto	48	13 15 6	R. Michell and Sons
ditto	62	13 15 0	Tamar Smelting Co.
ditto	26	6 1 5	ditto

* Nos. 1, 3, and 4 lots sold deliverable at shipping place; 2 sold on the mine.

COPPER ORES

NO SALE on Thursday last, April 15.

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—Devon Great Consols, Wheal Maria, Wheal Fanny, and Wheal Josiah 1036—West Caradon 366—Fowey Consols 312—Wheal Friendship 250—Tresavean 243—West Wheal Jewel 165—Marke Valley 125—Bedford United Mines 120—Wheal Brewer 104—Holmbush 84—West Trethellan 76—Charlestown United Mines 58—Wheal Busy 46—East Relistian 25—Wheal Gorland 14—Hallenbeagle 7—Penstruthal 4.—Total, 3035 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth,—Mines and Parcels.—United Mines 1462—South Caradon 394—Treleigh Consols 232—Par Consols 232—Creeg Braws 161—Wh. Sisters 138—North Downs 43—South Tolgus 32—East Crinnis 5.—Total, 2699 tons.

COPPER ORES

At SWANSEA, for Sale April 29.—Cobre 107, ditto 98, ditto 81, ditto 58, ditto 111, ditto 106, ditto 101, ditto 59—Chili 95, ditto 90, ditto 69, ditto 53, ditto 52, ditto 46, ditto 50, ditto 49, ditto 48, ditto 41, ditto 40—Cuba 110, ditto 101, ditto 96, ditto 62, ditto 56, ditto 110—Santiago 95, ditto 78, ditto 70, ditto 58, ditto 52, ditto 48, ditto 47—Berehaven 117, ditto 109, ditto 95, ditto 94—Knockmahon 113, ditto 84—Burra Burra 66, ditto 61, ditto 3—Ballymurtagh 37, ditto 15, ditto 2—Holyhead 33—New Zealand 32—Canadian 1.—Total, 3199 tons.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of March is 25—the quantity of coals consumed being 2093 tons, lifting, in the aggregate, 20,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 54,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed— To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANSELL, as acting for the proprietors.

"A Subscriber" (Bristol).—The address of the firm alluded to is at *Liege*—they have no office in London.

"W. R." (Glasgow).—Mr. O. Evans, an American citizen, proposed a plan, in 1772, "for propelling land carriages without employing [illegible] power." In an early Number we will give some interesting particulars, in reference to the subject.

"T. G." should apply to one of the brokers whose advertisements appear in our first page, who will readily give information respecting the prospects of any undertaking.

We would recommend subscribers to be careful in preserving their copies of the Journal, for binding into a volume at the end of the year—for which purpose, a title-page and index are published. We are induced to this notice, from being unable to meet many applications for back Numbers to perfect the last volume.

"M." (Truro).—The Liverpool and Manchester Railway was opened on Wednesday, the 15th September, 1830.

Mr. Pearce (Neath) must address his letter according to the advertisement.

POLGOOTH MINE (St. Austell).—We cannot insert the letter signed "Thomas Roberts, miner." On reference to an advertisement in another column, it will be seen that Mr. Bell is anxious to discover the writer of the letter signed "Thomas Penhall Smith."—If there is any truth in the assertions of either Roberts or Smith, they should have the honesty now to come forward and prove what they have asserted.

INDIAN COAL-FIELDS.—We are indebted to Professor Ansted for some valuable information, which we shall avail ourselves of in our next Journal.

Several reviews of new works are postponed.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all the news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, APRIL 17, 1847.

The letter of an intelligent correspondent, treating on the subject of accidents in collieries, and which appears in another column, will, doubtless, attract attention, and elicit remarks from others who have considered the several points on which he observes with so much truth, and renders evident that the matter is by no means novel to him as one of reflection—while, unfortunately, the many melancholy accidents of late has rendered the subject too familiar to all who consult the press for information, or who may be connected with mining pursuits, or be located in the district. We do not deem it necessary to add much to the remarks to which we have adverted—as, indeed, little requires to be said by way of argument in favour of a Parliamentary measure to protect the lives of the miners, and to which we would add, the provision for the support of the widows and orphans, who are bereaved of their support—so that the union of charity should be alone the union to which they should resort. We have oft dwelt on the subject; and will briefly state the prominent points to which we consider the attention of the Legislature should be directed—the main question, however, yet remaining to be solved, who will take up the case of the neglected collier and miner, if that Government does not come forward? There may be private interests which would be affected, and which would, doubtless, combat any measure put forward, but the cry of humanity must in the end prevail; and while the profit of the colliery owner is not reduced—for that he will take good care—we feel assured, that "One and All" will join with us in petitioning the Government, or the Houses of Parliament, for the introduction of some legislative measure, which will be a safeguard to the miner and his family. Attention to the ventilation, a careful supervision of the machinery, an application of the best known system as affects the several districts or localities—due care being observed in the provision of safe and good materials, and the competency of the several agents employed as colliery bailiffs, or agents—would appear to us to embrace the main points of a bill. We will, however, submit the following outline, merely that, by directing attention to the subject, we may be aided by the counsel and advice of others more practically acquainted with the works of collieries:—1. The establishment of a central board, and the necessary number of district inspectors, with powers to enforce certain general principles, according to the nature of the mine; and in the absence of which being observed, then the power to suspend operations—an appeal being at all times open to the central board.—2. The granting licences to mines, under the certificate of the district inspectors, confirmed by the central board, which alone would necessarily bring the condition and arrangements of the mine, at the time of granting such licences, under review—the inspectors having power to visit and report on the state of the colliery, or mine, within certain intervals, and whose reports should be forwarded to the central board, and open to inspection by the parties interested.—3. A fine, or penalty, to be enforced for every life sacrificed, when it shall be proved such arose from carlessness, negligence, or want of proper precautions being observed on the part of the proprietors; and a subsistence provided for any collier maimed, or rendered incapable of working.—4. A provision to be made, either by sum paid at the time, or by amounts, to the widow and orphans of those whose lives may be sacrificed under the circumstance referred to.—5. A revenue, or fund, to be raised for the purpose by a certain amount per ton on the produce.—6. Power to be given to the inspectors to enforce the use of suitable and proper ropes, chains, &c., under pain of suspension of the works, with penalties added thereto in all cases of negligence. We have thus thrown together some crude notions, which may, however, form the nucleus for others to work upon; and while we re-echo our earnest desire to aid the cause, we cannot but implore the exercise of that benevolent feeling and philanthropy which has ever rendered this country pre-eminent.

STEAM COMMUNICATION WITH AUSTRALIA.

The period has now arrived, when the importance of our Australian colonies is beginning to be generally admitted. Their prosperity is advancing rapidly, but safely—not like the progress made during the years 1839 and 1840, preparatory to that grand crash which swamped for a time nearly their whole commercial interests. Their exports of wool, grain, copper ores, and other produce, are so large, as to warrant every exertion being made to conduce to the well-being of these valuable dependencies of the British crown. What would have been our most ancient of manufactures, had not Australian wool superseded to a great extent the limited supplies of that article from Germany? And is it not reasonable to believe, that very considerable quantities of wheat would by this time have reached England, could the colonists have received advices of the state of the British markets, in sufficient time to have availed themselves of the past and present high prices of grain in this country? The copper ores, too, from South Australia, seem destined, by their richness and abundance, to rival the far-famed mineral wealth of Peru.

But the great thing necessary to unite more closely the chain which connects Australia with the mother country, is a direct steam communication. Such a measure would conduce, most undoubtedly, to the prosperity of the antipodal colonies; and while it is a notorious fact, that the post-office packets, leaving for Sydney the first of the month, are the dullest sailors in the Australian trade (partaking more of the nature of tubs than sailing-vessels), is it not natural to suppose, that such slow means of transit, will, ere long, be superseded by the omnipotent power of steam.

A few of the benefits likely to arise from a direct steam communication between England and Australia, are the following:—

1. The saving of time, and the regularity of the arrival and departure of the mails; so that correspondents might depend upon receiving their letters within a very short period of the steamer becoming due.

2. The advantages it would give her Majesty's Government, should the Australian colonies ever be engaged in warlike measures. No one can deny, that many lives might have been saved during the recent disturbances in New Zealand, but for the length of time between the receipt of intelligence respecting the state of those islands, and the arrival of troops.

3. The inducements it would afford to the emigration of that class essential to the prosperity of a colony—namely, the wealthy; and, indirectly, it would benefit the poorer class—for, although the latter could not afford the expense of a passage per steamer, yet they would ascertain, in half the time now occupied, the rate of wages and the demand for labourers in that province of Australia to which they might wish to emigrate.

Having mentioned some of the advantages of steam navigation with Australia, let us refer to the route proposed by Lieut. Waghorn. As steamers already ply to Singapore, the object to be obtained, is extending the line of vessels from that port to Sydney, Melbourne, Launceston, Adelaide, and Swan River. Mr. Waghorn has stated, that the route from Singapore to Batavia, *via* Port Essington to Sydney, would be quite feasible—but he seems to forget that there are other settlements in Australia besides New South Wales, of which Sydney is the chief town; and can he expect the support of Van Diemen's Land, Port Philip, Southern and Western Australia, except he allows them to participate with Sydney, in the rapid postal communication with England? Surely not. It is true, that sailing vessels might convey the mails from Sydney to the various other colonies just mentioned, including New Zealand—but, in order to render profitable the introduction of steam navigation with Australia, the promoters of the measure must not seek to benefit one particular colony, and neglect the rest.

Our exertions seldom fail when the cause we are advocating is just and advantageous. The friends of Australia, then, need not fear defeat in agitating for the extension of steam to the fifth quarter of the globe; and, moreover, when Lieutenant Waghorn, the man that has brought Bombay within 26 days of London, is determined to continue his efforts, until successful in bringing Sydney within 60 days of London, why not, friends of Australia, rally round the standard of that indefatigable promoter of steam navigation, and co-operate with him in establishing a direct steam communication with those colonies, that will one day probably become the Europe of the other hemispheres?

PATENT GALVANISED IRON COMPANY.

The half-yearly meeting of this company was held at the London Tavern, on Tuesday, the 13th instant, and was numerously attended.

Mr. MALINS presided.

The CHAIRMAN said, he would, in accordance with his usual custom, make a few statements in relation to the report which had been presented to the meeting—so that they might more clearly see the real position and prospects of the company. It might appear to some gentlemen, who attended at the last meeting, from the report and accounts, and more particularly from the circular they had issued, that they had met at the present time under no very cheering circumstances. If it should so appear to any gentleman (which might certainly be the case if they formed their judgment upon the year 1846), he would just draw their attention to the productiveness of their works at the present time, by which they would see that the prospects previously held out were fully justified by facts—so much so, that he was convinced they had never met under circumstances which could afford more ground for hope and expectation of permanent prosperity. (Hear, hear.) Gentlemen would see, from the accounts, that they were already dealing with a very large concern; and they must admit, that a concern of such magnitude could never have been brought to its present state of productiveness without very great outlay and exertions. The necessary fund for putting these valuable works into an efficient state had not been placed at the disposal of the directors; this meeting had, therefore, been made special for calling 1*l.* per share additional on the new capital of 25,000 shares. As to the productive qualities of the property in coal and iron, there was no doubt whatever. They must here bear in mind, that the state of the iron trade was such at the present time, that they might hope for good profits—so that the means the directors had adopted to enter largely into this trade, would not be regretted by the members of this company. Now, in respect to any disappointment at the half-year's transactions to Christmas, he stated that the causes, opposed to them at the previous half-year in October, would continue to operate to the close of the year 1846; and it was now clear that he had formed no erroneous conclusion on the subject. He would at once admit, that the year 1846 was one of disappointment; but, in that year, they had expended a large capital on works which, being incomplete, rendered no returns whatever, and, consequently, our present and last dividends were spread over a large portion of capital which, for the period, rendered back no return, and, therefore, the dividend for the year 1846 will not exceed 5 per cent. Against this, however, gentlemen should place this fact of their having previously paid dividends of 8 per cent. If they took these facts into consideration, they would agree with him, that there existed no cause for disappointment. He would first draw their attention to the produce of one of their works in Wales for the first three months of the previous half-year, which was 1630 tons of pig-iron; in the same months of 1847, the produce was 3718 tons. Was there, then, any fear of their going on in a state of progressive productiveness? They had about 1000 men employed, and consumed about 400 tons of coals a day. In Staffordshire, they had four furnaces, and they were now working three of them. In Staffordshire and in Wales, the produce was about 1000 tons week, which will be increased 300 to 400 tons per week more, by the addition of three more blast furnaces, within the next four months. They had now more than 30 steam-engines going, and employed from 2000 to 3000 men. As to their coal operations, he might state with confidence, that before two years, they would be able to supply 500 tons of coal per day for exportation, besides raising 700 tons for their own concerns. With these facilities, they must look to the consequences of the operations of several years, and not be guided by the result of the last half-year of 1846, in which they received only 2 per cent. out of the profits. With respect to the patent question, a confident expectation was entertained by the company, that a speedy and satisfactory settlement of the whole question would take place. It had been suggested (and the subject might hereafter be considered), that the name of the company (Patent Galvanized Iron) is too limited, as conveying no sort of idea of the fact, that its operations (independent altogether of its trade in galvanized iron) are of such magnitude; the mineral property of the company being unsurpassed by that of any concern in the trade; and its make of pig, and every branch of finished iron, placing it amongst the first houses in the iron trade. He would draw their attention to the advantages to be expected from the junction of the Llynvi Valley Railway with the South Wales Railway. At present, they were limited to the small port of Porth Cawl, where they could not ship their coal for want of sufficient accommodation; but, by these railways, they would not only have a large increase of trade, but would be brought nearer the port of Cardiff than even Merthyr Tydvil; and, besides this, it will open the ports of Swansea, Neath, and Port Talbot; and they would have the opportunity of sending their iron to their Staffordshire works in less than 10 hours by railway. Looking at all these things, he trusted the proprietors would agree with him, that the prospects of the future were as cheering as ever, and that they had every reason to be confident in the success of the undertaking. With these observations he would move that the report be adopted.

After some discussion the report was adopted. The directors, who retired, were also re-elected unanimously.

The meeting was then made special, for considering the propriety of amending the Deed of Settlement, and for making a further call of 1*l.* per share on the new capital.

The CHAIRMAN explained how the difficulty in the present deed arose, from the 90th clause rendering it impossible for the directors to raise money, till all the capital was called up. This they proposed to alter, so as to give them that power; and also to limit the *maximum* sum to 60,000*l.*, instead of 50,000*l.*, there mentioned.—The resolution for that purpose was agreed to unanimously.

The motion, for raising an additional sum of 1*l.* per share on the new capital, was also agreed to unanimously.

Thanks having been voted to the chairman and directors, the meeting adj.

GALVANISED IRON.—One of the galvanised iron blocks, made by Lenox and Co., was tested, at Woolwich Dockyard, on Thursday last, with a hook of a stronger description than those formerly used—the chain passing through the block broke on reaching a strain of 5½ tons. The block did not appear to be in the slightest degree affected by this great strain, and the riveting of the hook to it remained perfect. The wheel of the block, on being moved round, circulated with as much freedom as it did before the trial—a proof that the steam had no influence on the axle, or any part of the block, to cause a derangement. It is a singular circumstance connected with these blocks, which subsequently acquire such great power, that they are, when first made, as brittle as glass, and require the greatest care when handled by the workmen. This invention is likely to prove of considerable value to the navy.

RAILWAYS IN RUSSIA.—General Dehn, the builder of the citadel of Warsaw has received directions to undertake the iron railway from Warsaw to Moscow, the plan of which has already been approved at St. Petersburgh. This railway is to join near Moscow, with that from St. Petersburgh to Moscow, so that from the point of junction it will be possible to go either to St. Petersburgh or to Moscow. This railway (from St. Petersburgh to Moscow) is to be completed in the autumn of next year; 50,000 workmen, besides the peasants, are to be employed upon it. We also hear of an iron railway from Moscow to Odessa.

According to a series of resolutions just published at Vienna, no locomotives are to be used on the Austrian railways except six-wheeled ones—the speed of passenger trains is not to exceed 28 miles an hour, and the goods trains 19.

ABOLITION OF THE DUTY ON IRON, &c., FOR SHIPBUILDING IN FRANCE.

[FROM OUR PARIS CORRESPONDENT.]

I have the satisfaction of announcing to you that the report, mentioned in my last, of the intention of the Government to propose a reduction of the duties on the importation of iron and other articles, destined for ships built for mercantile purposes, turns out to be, as I led you to believe, perfectly well founded. In the new Customs' Bill, presented to the Chamber by the Minister of Finance, is a clause *exempting sheet-iron, iron in bars, copper, and zinc, from the payment of all import duty*, provided they be employed in the construction of vessels for the merchant navy within one year after their importation. This bill, though presented a fortnight ago, was only officially published in the *Moniteur* of this morning. The clause on this subject is as follows:—

"NAVAL CONSTRUCTIONS.—Iron in bars, copper, and zinc, flax, and hemp, destined to the fabrication of objects serving in the construction or fitting out of French vessels of commerce, shall be admitted *free of duty*, on the condition that the employment of the said objects to the specified purposes shall be proved within one year. The same privilege *shall be accorded to sheet-iron and works in iron*, destined for the construction of iron vessels. Royal ordinances shall determine the nature and conditions to which this privilege shall be subjected. Any infraction of such conditions shall be punished by a fine equal to four times the amount of the existing duty on such articles."

You will not fail to observe, that this by no means amounts to a general modification of the iron duties. As the *Journal des Débats* well observes, the bill is "a law of Customs' reform, which touches neither iron, nor steel, nor coal, nor tools of any kind." It gives no relief to railways—no relief to the great mass of the people—no relief to the many branches of industry which are groaning and withering under the monopoly of the ironmasters and the owners of coal-pits—but, still, it is impossibe to deny that it is a measure of vast importance. It is the first breach in the iron monopoly; and as such, gives full assurance, that the downfall of that monstrous piece of injustice cannot be far distant. It is a capital thing, too, for England; for it is certain that it will afford her a large market for some of her most important products. Under this bill, it will be her own fault if she do not obtain the benefit of supplying every piece of iron that enters into the construction of every merchant vessel in this kingdom.

The question of the propriety of admitting sheet-iron and ordinary iron for shipbuilding, was fully discussed in the Paris correspondence of the *Mining Journal*, about 12 or 14 months ago. I then laid before your readers a mass of figures, compiled from official documents, showing the deplorable state to which the iron monopoly had reduced the merchant navy of France. Among other facts which were cited, it was stated, that in 1827 France possessed 3 ships of 800 tons burden, and 6 of 700; but in 1844 she had not one of so large a size. In 1827 she had 2 ships of 600 tons; but, in 1844, she had only 1! In 1827 she had 13 vessels of 500 to 600 tons; but in 1844 she had only 6. In the former year she had 38 ships of 400 to 500 tons; in the latter only 33. In 1827 she had 183 ships of 300 tons, and 570 of 200; in 1844 she had only 179 of the former, and 433 of the latter. In 1827 there were 1357 vessels of 100 to 200 tons; but in 1844 only 1275. Of little vessels of 30 tons and under there were 9475 in 1827, and only 8900 in 1844. I am aware that these figures are considered by many persons to be somewhat exaggerated; but they were accepted as correct by the famous General Council on Manufactures, Agriculture, and Commerce, which assembled in Paris a year ago. Since 1844 there is every reason to believe that the state of the mercantile navy has become worse, though I perceive the Minister of Commerce, in his report to the Chamber on the new bill, professes to entertain a different opinion, without, however, giving any satisfactory reason why he does so. At all events, it is perfectly undeniable that the condition of the mercantile navy is most deplorable, and has been so for years.

It has always been considered by competent persons, that the only plan of restoring this important branch of national enterprise and wealth, to anything like its pristine prosperity, would be to make an immense reduction on the importation of foreign iron. The General Council of last year (it consisted of the most eminent shipowners and mercantile men of France) solemnly declared, that the abolition of the iron duties, in favour of the shipping interest, was absolutely necessary, to save the mercantile navy from total destruction. The Council adduced a variety of statistical information, showing the comparative cost of building and fitting out a merchant vessel in France, and in other countries, the result being most disadvantageous to the former. The Council also insisted on the great advantage that would arise from building ships in iron instead of wood, on account of their being cheaper, stronger, lighter, and capable of carrying greater burdens—but it was proved, that it was totally impossible for a French shipowner to think of bulding vessels of French iron, owing to the enormous price of that material in this country. It was shown, indeed, that for an iron ship, of 500 tons burden, he would have to pay not less than 1600*l.* more, if he bought the material in France, than he would have to pay if bought in England!

But, as (to repeat what I have said above) England will have, or ought to have, the entire advantage of supplying all the sheet-iron, ordinary iron, and copper, which this new bill will allow to be imported duty free, the most important question to *your* readers is—What will be the probable quantities required? To answer this question, in the first place, with respect to sheet-iron, I think it will not be too much to assume, that one of the very first effects of the new law will be, to carry the merchant navy up to what it was 20 years ago. I think too, we may assume, that all the new ships to be built will be in iron. On the first assumption, we shall arrive at the conclusion, that there will have to be constructed—3 vessels of 800 tons—that is, 2400 tons; 6 of 700, 4200; 1 of 600, 600; 7 of 500, 3500; 5 of 400, 2000; 4 of 300, 1200; 137 of 200, 27,400; 82 of 100, 8200; 575 of 30, 17,250; total, 66,750.

Your readers will observe that, in the above calculation, I have taken the very lowest figures; for instance, when the vessels are of from 500 to 600 tons, I have counted them as only of 500, when of from 400 to 500 tons as only of 400, and so on. We are, therefore, greatly under the mark. Now, it is calculated that, for each tons burden, every vessel built in iron will require 434 kilogrammes, or 868 English pounds, of sheet-iron. This will give a total of 28,969,500 kilogrammes, or double that number in English pounds. In French measure this quantity is equal to 28,969 tons. Of course, this is merely a guess; but I think it would be prudent for our English establishments to be prepared to expect some such a demand. As respects iron in bars, nails, copper, &c., your readers will be able to calculate the proportion required for the construction of about 66,000 tons of shipping. Besides that, they must take into their calculations the quantities that will be needed for replacing the present amount of shipping, as it becomes worn out. In France it is ascertained that about 40,000 tons of new shipping are constructed every year; and that each ton (the vessel being built of wood) requires 27 kilogrammes of iron bar, sheet-iron, nails, &c., and 15 kilogrammes of chain cable. The duties on the importation of chain cables are not to be altered; but, without counting them, we have here an annual demand of 1080 tons, supposing the vessels renewed are in wood; if in iron, the demand will, of course, be greater. But it must be borne in mind, that if at present the shipbuilding in France is only to the extent of about 40,000 tons a year, it will certainly be vastly increased when relieved from the heavy expenses of purchasing French iron. As to copper, the demand is estimated at 600,000 kilogrammes, or 600 tons. As to zinc it need not be taken into account, for it will all come from Belgium. You see then, from what is here said, that the principal advantage of the new law to England will be derived from the permission to introduce sheet-iron; and that, in my thinking, will be a great advantage indeed.

The new law, it will be observed, is not of a very sweeping character. Yet will it be believed, that the ironmasters actually threaten to give it every opposition, notwithstanding it interferes not in the slightest degree with their monopoly, for they have never been able to supply sheet-iron? These men must really be mad, if they shall venture to fulfil their threat. It is enough for railways to be deprived of the iron which they profess to supply, but do not, without the shipping interest being entirely ruined, from being compelled to demand sheet-iron from them, which they have no more power to supply, than they have to supply gold.

Permit me, in conclusion, to mention, that no newspaper, whether English or French, has been so well informed as the *Mining Journal*, with respect to the proposed changes in the tariff. It was first stated in your columns, that the French Government was preparing a measure on the subject—it was first stated in your columns, that the Ministry was disposed to postpone its measure, in compliance with the wishes of the monopolists—and you were the first to state that the measure would, notwithstanding this hesitation, certainly be presented. The *Mining Journal* too gave, in

its last number, a statement of what the new measure was believed to be, though at that time its provisions were kept secret, and were totally unknown to the Parisian and London press; in fact, it was only on Monday morning, that one of the principal journals of this city gave an outline of the new bill.—*Paris, Wednesday.*

BELGIUM.—The companies of the coal-pits of Coune and Colladios, Valentin, and Coeg, have just been authorised by the Government to establish a railway from the pits to the banks of the Meuse.

The company of the Charbonnages d'Oigaries, Aisean, has been authorised by royal ordinance as a *société anonyme*. The capital is fixed at 40,000*l.*, in 2000 shares. The pits comprised in the "concession" of the company are estimated at 20,000*l.* Two French capitalists hold the largest stake in the company, and the 512 shares not yet issued will, in all probability, be eventually taken by Frenchmen. The desire of the monied men of France to dabble in the mining enterprises of this country, seems "to grow by what it feeds on."

Nothing of importance has occurred in connection with mining matters during the past week.—*Brussels, Tuesday.*

MINING PROSPECTS IN NOVA SCOTIA.

Another inexhaustible deposit of iron ore has recently been discovered at Londonderry Mountain, in Nova Scotia. The ore is of that variety usually described as the specular oxide, and will yield 70 per cent. of cast metal; it is situated between a wall of trap rock on one side, and limestone on the other, and on the border of the Nova Scotia coal-field, where it is probable coal may be obtained, and wood for fuel is abundant in the neighbouring forests. A small river, descending from the mountain, near the ore, will afford abundant water-power to propel the necessary machinery for manufacture. A tract of land, containing the iron, and a proper site on the river, has been purchased by John Ross, Esq., of Truro, who is now endeavouring to obtain an Act of Incorporation from the Legislature, for a company to commence smelting and manufacturing operations. A report by Dr. Gesner, who has examined the ore and its locality, is highly favourable to the enterprise.

The mines and minerals of the tract of land where this valuable deposit of iron is situated, were not reserved by the Crown in the original grant; and, therefore, they are not embraced by the monopoly of the General Mining Association. Still, the extraordinary claim of that body to the mines of the chief part of the whole area of Nova Scotia, including Cape Breton, and especially to the coal-fields, will continue to check the manufacturing industry of the province. The same claim, by commanding the coal necessary for fuel, has brought the steam navigation of the country into its grasp; and the Royal Mail steamers, from Liverpool to Halifax, are influenced by that powerful association. This assumed title to the mineral wealth of the country is rapidly producing a state of general dissatisfaction throughout the length and breadth of the land. The exertions of Dr. Gesner have been in no ordinary degree instrumental in bringing the subject before the Legislature, who are now engaged in this important investigation. Some monstrous developments have already been made; and a hope is beginning to prevail, that the people of Nova Scotia will obtain some participation in the benefits to be derived from the minerals of a colony that has been redeemed by their labours from a pathless forest to a valuable appendage of the British Crown.

THE SCOTTISH AUSTRALIAN COMPANY.—In 1840, a company was established in Aberdeen, called the Scottish Australian Investment Company, with a capital of 100,000*l.* paid-up. They commenced operations in the colony in the following year; since which time, this company has, by judicious investments, uniformly yielded the shareholders a handsome return for their capital, and now occupies a high position in the colony. Conjointly with the North British Australian Company, they have recently purchased land in close contiguity to the Burra Burra Mining Company, and, by the last accounts from their agents, had commenced sinking a shaft; and the companies at home are expecting to have accounts in the course of next month of their first operations in mining. Their purchase was so favourable, that they were offered 300 per cent. profit on the transaction. The company is under the management of 14 honorary, and the same number of ordinary, directors—gentlemen of influence, talent, and practical business—the objects of the company being the management of the pecuniary affairs of individuals having property in the colony of New South Wales, by collecting and remitting the revenue arising from mortgages, bank stock, &c., as well as the proceeds of bills, and, generally, of all debts due in the colony, to residents in Europe. A very large portion of the paid-up capital appears to be invested chiefly by mortgage on real estate, in the colony, and with numerous proprietary resident in Britain—thus affording ample security in both quarters. We believe this company to be one of, if not the most, flourishing in the colonies of New South Wales, South Australia, or New Zealand.

FESTIVAL OF THE IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—On Wednesday evening last, a numerous, and highly influential body of gentlemen, connected with the above trades, assembled at the London Tavern, to celebrate by a public festival the fourth anniversary of the above excellent society. The Right Hon. the LORD MAYOR honoured the society by presiding on this interesting occasion, and was supported by the Sheriffs of London and Middlesex. The dinner was served up by Messrs. Bathe and Breach, in the most liberal and excellent style, and the guests seemed fully to appreciate the good things placed before them. After the cloth had been removed, and the usual loyal and patriotic toasts drank, the Lord Mayor, in a very forcible and feeling manner, advocated the interests of the society, and concluded by proposing the chief toasts of the evening—viz.: "Prosperity to the Iron, Hardware, and Metal Trades' Pension Society." The secretary (Mr. T. HAWKINS) then read a long list of donations and subscriptions, which elicited much approbation from the gentlemen present. After several appropriate speeches had been delivered, and toasts proposed, the secretary read a second long list of donations and subscriptions which had been handed up to him, including sums of 10 guineas each, from the Right Hon. the Lord Mayor, Mr. Sheriff Kennard, Mr. Sheriff Challis, Mr. Alderman Copeland, Mr. Alderman Johnson, the Mayor of Birmingham, &c., &c.—Mr. Sheriff KENNARD then rose, and was received with the most hearty and prolonged acclamations: he, in a most eloquent and earnest address, proposed the health of the Lord Mayor, and warmly eulogised him for the very spontaneous and handsome manner with which he had responded to the invitation to preside over them on that occasion.—The LORD MAYOR having acknowledged the compliment, the indefatigable SECRETARY then read *another* long list of donations and subscriptions; and whether it was the operation of the rich quality of the wine, or the enlarged amount of the subscriptions, or the *gusto* with which the secretary announced them, we will not pretend to say; but this we do know, that this list was greeted with warmer and more prolonged enthusiasm than any of its predecessors.—Several more toasts having been proposed by the LORD MAYOR, complimentary to the committee, and other officers of the society, some excellent songs from Messrs. Hobbs, Hatton, and Keach, having been sung, the company adjourned to the coffee-room, where they discussed with much interest and animation the future brilliant prospects of the society; and all seemed very highly delighted with the success of the evening's entertainment. In addition to the distinguished visitors we have already mentioned, we observed Robert Stephenson, T. B. Simpson, H. L. Smale, T. W. Kennard, Samuel Ellis, H. I. Vardon, H. L. Taylor, W. Gould, W. Stack, and R. Moser, Esqs. The secretary received several letters from other distinguished gentlemen, regretting their inability to attend on that evening, and many of which were accompanied by handsome donations—amongst these we noticed Beriah Botfield, Esq., M.P., and enclosing 20 guineas; Thomas Thornley, Esq., M.P., F.R.S., 10 guineas; the Blaenavon Iron Company, 10 guineas, &c. We understand that an election for three pensioners will take place on the 24th of next month, and we urgently recommend all benevolent persons connected with the iron and hardware trades, to join this excellent society, and thus lend their aid and timely assistance towards alleviating the distresses of their less fortunate brethren.

THE ELECTRIC TELEGRAPH.—Arrangements are making on the part of the Electric Telegraph Company for introducing this wonderful mode of communication between the flourishing sea-port of Liverpool and the metropolis, which, to the mercantile interest, will be of the greatest importance, as it will connect Manchester and the leading manufacturing towns with most of the sea-ports on the south and western coast. The line of telegraph from the Admiralty to Gosport and Portsmouth, now being laid down from the principal station in the Strand, by the directors of the South Western Company, over Waterloo Bridge, will be in full operation next week.

SILVER AND GOLD MINES OF THE NEW WORLD.—No. IX.

The mines of Potosi must be far from being exhausted, although a celebrated historian, Robertson, announced long ago that they were. The ore of Potosi, like the ore of Mexico, is of feeble substance in silver; but, like it, presents itself in very great abundance. What rests in the bosom of the earth forms an almost infinite mass. The Prefect of the Department of Potosi, in a report addressed to the Bolivian Government, in 1832, estimated that the ore extracted from the bosom of the earth was in volume 1,394,000,000 cubic *metres*, and that there remained to extract almost as much—viz.: 1,383,000,000 cubic metres. It is true that the ore at the bottom is less rich at Potosi than that which is near the surface; but does not the ore plunge beneath the table land, on which Potosi rises, and rising from which only the mass has been calculated? Again, it is not certain that all the ores extracted to this day have been turned to good account. The producers of silver at present live almost entirely on the excavations that their predecessors had abandoned in immense heaps, as of too poor quality. This refuse, called *pallaco*, yields only the half, or the third, of a thousandth of silver. It is only the half, or the third, of the substance, at which the Mexican miner stops;* but as there is no trouble in taking it, people are content, and find it profitable to work, although the methods of working in Peru are more imperfect—I say more—more outrageously clumsy—more unworthy of people that call themselves civilised—than those of Mexico. The Mexicans, little advanced as they are, are great mechanicians and able miners, compared with the population of Potosi, and Peruvian extractors in general. All that one can imagine of barbarous, of backward, of awkward, would scarcely give an idea of the mechanical processes employed in these undertakings. There are mines in which one cannot stand upright—in which the notion of a straight line has never penetrated—in which the lodes are carried on men's backs—in which there is no air—and in which the workmen are suffocated. Not a cart where it would be most profitable to have one—not a descent along inclines where it would be most easy to have one. Always, and everywhere, man is a beast of burden. It is by men's arms that the mines are emptied of water—in Mexico, at least, horses are employed. It is the same in the buildings in which the amalgamation is effected. Although Peruvian miners were the first to substitute mules for men to tread the matter and renew the surfaces, this innovation has not yet penetrated to Potosi. This task is still executed there by men, paid at the rate of 3 fr. 40 cents. per day, and even at that price it is difficult to find them. The population shun the mines—an unhealthy sojourn, where the labour is horribly painful, and against which it entertains an hereditary repugnance, on account of the constraint exercised against it in the time of the Spanish domination. It has not any greater liking for the amalgamation buildings; because it is proved that a labourer, who works at the *bocard*, where the mine is pulverised when dry (instead of being crushed under water with the Mexican *arrastres*), has not more than five years to live, and because those who tread in the mud, impregnated with metallic substances and mercury, contract cruel maladies. In adopting processes more conformable to the advancement of the arts and to humanity, the expenses would be greatly reduced, the antipathy of the population to mining industry would be removed, and, with the same number of workmen, the production would be tripled or quadrupled. But, no: the old processes are religiously maintained, as if they were written in the commandments of God. Good methods of underground labour; salutary precautions, such as the airing of mines; the most elementary mechanisms—the waggon, the wheelbarrow, the shovel, the minor mechanical operations in amalgamation—are not known, are repressed, are interdicted. And yet it is from a mine thus worked, that there has been extracted, since 1545, an amount of at least 40,000,000*l.*!

It appears, however, that the Bolivian Government, more enlightened than its people, has recently determined to procure some able European engineers, whose services cannot fail to be valuable, provided they receive the support of the authorities. If I am well informed, one of the most efficacious, and, at the same time, one of the simplest improvements that can be expected of the Bolivian Government, would be to suppress the Mint of Potosi, which absorbs a sum comparatively enormous—several hundred thousand piastres—but which is of no service to the states. If the cost of this useless establishment were to be intelligently employed in improving the roads, which in all Bolivia are in a state impossible to describe, and on which the cost of conveyance is 25 or 30 times greater than for the same distance in France, it would, in 15 or 20 years, be of inappreciable advantage to the country, and especially to the mines. Results, not less happy, would also be obtained, if, in suppressing this expense of the Mint, so exorbitant to the public Treasury, a part of it were to be devoted to the creation, at Paris, of an institution, in which 25 or 30 youths, chosen among the *élite* of the young people of Bolivia, were to be educated at the cost of the Republic, in such a manner as to be able to introduce into this country the knowledge on which are founded the most essential arts of civilization. A sum of 50,000 piastres per annum would be sufficient for such an object.

It is not possible to state, with certainty, the total production of the mine of Potosi since the commencement. One point only is certain—namely, that the mine is immense. According to the official documents sent to M. de Humboldt, from 1556 to 1789, the production amounted to 788,258,500 piastres; to which may be added, for the first eleven years, 127,500,000 piastres. A functionary of Potosi, the Treasurer Don Lamberte Sierra, quoted by M. de Humboldt, calculated the production, from 1556 to 1800, at 823,950,508 piastres, which, deduction being made of the last 10 years, would be a little more than the estimate transmitted to the illustrious author of the *Essai Politique sur la Nouvelle Espagne*. The documents published by the Prefect of the department of Potosi, confirmed by a traveller, who had the opportunity of personally examining the books of the Mint, show that, from 1556 to 1st January, 1835, the total production of the mountain of Potosi, independently of the other mines which supply the Mint, was 734,205,903 piastres; in adding thereto, for the first 11 years of the working, 28,827,590 piastres (the amount deduced from the statements of some of the old writers most worthy of belief, especially of Herrara and Father Acosta), we have a total of 763,033,493 piastres. Up to 1st January, 1846, this would be, at the rate of 788,011 piastres for each of the first 11 years, 771,706,618 piastres, without, however, ever taking into account what was smuggled out of the country. A good deal of silver was smuggled to Brazil, by the valleys, which, from the summit of the Andes, descend towards the east—that is, towards that empire. Silver is attracted to Brazil by a similar cause to that which leads to so much being sent to China; but the cause is not quite so intense—that cause is the rarity of silver, the mines only yielding gold. Formerly, especially at the period in which Potosi was in all its splendour, smuggling appears to have been very considerable. Father Acosta, who wrote at the end of the sitxeenth century,† puts it down at a third. That may have been the case in his time; but after what has been stated to me, by people who have been on the spot, the amount smuggled must at present be calculated at not more than one-seventh of the production officially recorded.‡ On an average, it may be assumed, with M. de Humboldt, that the clandestine exportation was a quarter, because it so happened, that the great yield of Potosi took place at the period during which the control of the mother country was the most powerless. We arrive thus at 965,000,000 piastres; but, in admitting that these calculations be correct, we are still not done with difficulties, for in the accounts the same piastre was not used at the beginning as at the end. At present, the piastre used is of 8½ Castillian marks; the piastre of 8 reals, the piastre which corresponds weight for weight, in pure silver, with 5 fr. 43 cents. French money. From the discovery of the mine, to an undetermined period, comprised, however, between 1580 and 1600, the piastre was 13½ reals; for this reason, there must be added to the product calculated above 134,000,000 piastres. We thus arrive at a definitive total of 1,099,000,000 piastres of eight reals, or 5,968,000,000 fr. (234,720,000*l.*), or 26,854,055 kilogrammes. The calculation of M. de Humboldt would give for the working, up to 1803, 279,500,000 piastres additional, which would make the definitive total 1,378,000,000 piastres, or 7,483,000,000 fr., being in weight 33,671,430 kilogrammes.

Bolivia possesses other mines that are productive, and which are even less than those of Potosi—they are those of the provinces of Chayanta, of Porco, of Chichas, and of Poopo. The coinage at Potosi has been, on an average, during each of the five years comprised between 1st July, 1829, and 1st July, 1834, 1,912,922 piastres, in which gold forms a quantity varying from 500,000 fr. to 1,000,000 fr. (20,000*l.* to 40,000*l.*) The average of the 40 years, terminating 1st January, 1810, deduction made of Chicuito and Puno, which do not now belong to Bolivia, but which, under the colonial system, contributed to the Mint of Potosi, was 3,000,000 piastres. It is scarcely one-half more than the coinage of 10 years back; but, though the totality may not have diminished by more than a third, Potosi has fallen in the proportion of 4 to 1.

Since 1834 the production has remained stationary. The average of 12 years, of which I have been able to procure the figures, is 1951 kilogrammes for Potosi, and 26,021 kilogrammes for the other mines of the Republic. Adding one-seventh for smuggling, the total will be 22,306 kilogrammes of fine silver for Potosi, 29,738 kilogrammes for the other mines—together 52,044 kilogrammes. At the rate of French moneys, this makes an amount of 11,565,000 fr.

The production of gold is at least 300,000 piastres in amount, which is equal to 444 kilogrammes of pure metal, or to 1,530,000 fr. The mine of Potosi does not furnish any.

VIII. BRAZIL.

Mexico and Peru produced at the commencement of the century, and still produce to this day, two-thirds of the precious metals drawn from the mines of the New World. After them, however, other states deserve to be signalised. Among them, and above all, is Brazil, which has furnished a comparatively enormous quantity of gold, and in which it is certain that the auriferous deposits still contain vast treasures. There are, too, New Granada, from which is obtained a considerable quantity of the same metal; the United States, which also presents beds thereof, remarkable, at least, for their extent; and Chili, formerly quoted for its production, but more important, at present, for its mines of silver.

The vast empire of Brazil possesses in several of its provinces, and especially in that of Minas Geräes, very great auriferous alluvions, in which also are found diamonds, but which, though known for more than 300 years, have only been regularly worked since the commencement of the eighteenth century. Fifty years after, Brazil yielded a quantity of gold superior to what was furnished by the rest of the New Continent. The duty paid on this varied, during some years, from 6500 to 8000 kilogrammes; from which it has been concluded, in making allowance for smuggling, that the production approached 12,000 kilogrammes. At this period a great deal of gold money was coined in Brazil and Portugal, and in 1777 it was estimated that the quantity of coined gold that circulated in Portugal and Brazil was equal to eight times that of silver money. Little by little this fine yield diminished. According to the precise and detailed information supplied by M. d'Eschwege, Director General of the Mines of Brazil, it was only, at the end of the eighteenth century, 3700 kilos. It fell still lower some time after. Thus, from 1810 to 1821, the average yield unregistered was 1095 kilogrammes—it is a high estimate to put it down at 2000 kilogrammes the real produce. In 1824 the extraction appears to have fallen to 584 kilogrammes. More recently, M. Claussen has estimated the extraction at about 2500 kilogrammes. Thus the country which, a year ago, was the great reservoir from which the commercial world drew gold, has now in that respect only a subaltern rank. Yet it must not be pitied, for it appears that it is for the more regular and more certainly-profitable labour of the cultivation of land, the washing of auriferous sands has been abandoned. Nevertheless, the introduction to Brazil of more scientific methods, similar to those employed in Asiatic Russia, would render the gold branch of industry more profitable, and it may, in consequence, be established anew.

According to the calculations of Raynal, who on this point merits confidence, the gold sent out of Brazil, in paying the duties, from the commencement to 1755, amounted to 480,000,000 piastres (2,606,400,000 fr.), which are equal to 709,800 kilogrammes of pure gold. The returns of the *quint*, supplied by M. d'Eschwege, show a production, from 1756 to 1777, of 138,000 kilogrammes, and from 1778 to 1810 of 110,000 kilogrammes. It is, therefore, up to 1810, a total of 955,800 kilogrammes, to which must be added the amount smuggled. Smuggling having always been very active in Brazil, we may suppose a third of the declared produce to have been smuggled, though, perhaps, that is hardly sufficient; and we thus arrive at a total of 1,274,400 kilogrammes. Since then the yield may be estimated at 60,000 kilogrammes. This will make the definitive total at the least 1,334,400 kilogrammes, equal to 4,596,260,736 fr.

After Mexico, Peru, and Brazil, there remain only the countries whose total production, up to the commencement of the present century, has been calculated by M. de Humboldt, including what may have been smuggled, at 414,000,000 piastres, entirely in gold. That is a large sum, undoubtedly, taken separately; but, in relation to what had then been extracted from America, it was only $\frac{1}{13}$th. Let us pass rapidly in review these states, in which production had not ceased its task, when M. de Humboldt published his learned researches.

[*To be continued in next week's Mining Journal.*]

* More exactly 4½ to 7-10,000ths. The ores in small quantities, that are drawn from the veins, are not so poor; they yield from 9 to 12 10,000ths, but, on account of the cost of extraction, give no more profit than the *pallacos*.

† The date of his work, on the *Natural and Moral History of the Indies*, is 1591.

‡ The mines of Potosi are far from the coast, in a country where the difficulties of conveyance are incredible. The rights of the Crown might have been easily maintained, if the public authorities had given themselves the trouble, and not shared with the smugglers. The absence of gold in the ingots of Potosi must have rendered fraud less tempting. The diminution of the royal duty, which, from a fifth, was reduced to a tenth in 1736, could not fail to reduce the smuggling; but at that period the great yield of Potosi had ceased.

Original Correspondence.

HYPOTHESES ON IRON.

SIR,—I did not wish it to be understood, that I first pointed out the existence of the alkaline metals in cast-iron, although I find, on looking over my communication of March 29, it reads so, and so Mr. Mushet has taken it; I merely intended to state, that I had found the metals in question in cast-iron—thus confirming that which had already been published by Berzelius some 25 years since. I am not aware, however, that any other chemist than myself has estimated their amounts: I have, in many samples—the analyses of which, when completed, will appear in due course. I, therefore, as Mr. Mushet will see, claim no priority in the matter of the alkaline metals—merely adding my testimony to their existence in cast-iron. In the course of the investigation with which I am now occupied, I shall have every opportunity of noting their happy or injurious influence, both as regards their quantity, and the particular effect each produces. I am not at present in a condition to confirm Mr. Mushet's observations on this subject, owing to the comparative incompleteness of my experiments; I must beg to differ from Mr. Mushet on the matter of the utility of analysis, thinking that, by a proper arrangement of results, obtained from so many samples as I shall be enabled to operate upon, will materially add to our knowledge of the theory of iron smelting, as well as the properties of the produced metal, whether cast, malleable, or in the state of steel.

There is still no reason for admitting the presence of peroxide of calcium in slag, or its formation in the blast-furnace—in support of which, I will give some of its properties, as described by its discoverer, Thenard. Peroxide of calcium is decomposed into oxygen gas and lime, *even when dried in vacuo;* and is always instantaneously decomposed, when exposed to a very slight increase of temperature in the open air, or in close vessels. These being some of its properties as regards heat, how, then, is it possible to maintain, that such a compound can exist at the temperature of the blast-furnace? We have no precedent in the matter—all the oxides, whose composition, as indicated by the formula, one equivalent of metal, added to two equivalents of oxygen, yields oxygen gas at a red heat—some giving off by their decomposition one equivalent of oxygen—others, by the decomposition of two equivalents, one equivalent of oxygen, leaving a sesquioxide, expressed by the formula, two equivalents of metal, and three of oxygen. None of the metals of the group to which calcium belongs, have any recognized peroxides—so that I think it is, to say the least, very improbable, that peroxide of calcium is formed at the temperature at which iron is reduced; or, indeed, at any temperature producible in the blast-furnace. In reply to "Ferreus," the alloys of the alkaline metals with iron do not pre-exist in the ore, and there is no doubt whatever, that they are formed during its reduction. I do not at present see any other explanation needed in the matter of the carbon existing in grey and white iron, than that which I have already urged—viz., that in the former a portion only is in a state of chemical combination, and the remainder is merely mechanically mixed; whilst in the latter the whole in is a state of chemical anion. I think this sufficient to account for the observed difference in the varieties. From the late beautiful experiments of Dumas and others, it is completely determined, that carbon is an elementary substance—so that the changes in question must be effected by the state of combination, in which the carbon exists—that is to say, whether it is chemically, or mechanically, combined. If this be admitted, as I think it must be, there is no need to assume, that the nature of the carbon itself is changed—such an admission would only obscure our way, instead of rendering it brighter.

It is as "Ferreus" observes, quite certain that more carbon is necessary to produce grey iron than white. It seems to me that the greater quantity of carbon necessary in the production of grey iron, merely serves to be dissolved or taken up by the iron, which becomes supersaturated with dissolved carbon; and as it cools, the carbon crystallises out, a portion of it floating on the top of the metal in large leaflets; and another portion of the crystallising mass (this portion constituting the grey variety of iron), being kept mechanically combined between its particles—in fact, that this *is* the case I need only cite the occurrence of large masses of graphite in the centre of pigs of iron. What, then, is the inference we must draw from this? It can only be, that if large masses of graphite can exist in pigs of metal, is it anything surprising that minute particles may, and do exist, in a mechanical state of combination or mixture? And cannot it be readily supposed, that particles of a substance as graphite, differing in properties so completely from the iron with which it is mixed, should totally alter the character of the latter? Nothing to me seems more simple or clear. We can prove by analysis that white iron contains no graphite; we prove, by the same means, that grey metal does. In the large way graphite is not found in white iron, neither does it float on its surface, when run from the furnace; but it is found in grey iron, not only in minute particles, but in considerable masses; and it also floats on it when in a state of fluidity—so that we may conclude it is, as "Ferreus" observes, a change in the *quality* of the carbon, my version of which is, that it is a change from *chemical union* to *mechanical mixture;* and although that gentleman's real meaning differs from mine, yet I think he will find, on reflection, the theory I advocate has more truth in it than he at present admits. So much for the formation of this variety of iron in the blast-furnace. As to the production of grey from white iron without fusion, the same theory holds equally good. We know that bar-iron, when imbedded in charcoal, and intensely heated, absorbs carbon—therefore, we may suppose, that white iron would do the same, when placed under like circumstances. We will suppose it to have absorbed a quantity of carbon, which brings it to such a state of supersaturation, that it is obliged to part with carbon, from the latter assuming the crystalline form—and thus it is in precisely the same state, excepting liquidity, as the iron in the blast-furnace—the greater part of the carbon crystallises away, leaving some of its crystalline particles intermixed with the metal; the surface of which, after such an operation, is covered with scales of graphite, as in the production of this class of iron by fusion. There may by some be urged against this explanation—the *non-liquidity* of the iron. This, however, can be no objection; for, if we admit that *solid* iron can absorb carbon, so must we admit that it can be again liberated. Graphite can be produced without the intervention of iron. I have a specimen obtained by intensely heating, for a great length of time, a fragment of coke in a crucible, filled with charcoal. This proves that this peculiar state of carbon can be produced merely by heating another form of the same substance. Why grey iron deoxidates oxides of iron more readily than white iron is, that the carbon exists in the former in a free state; and it is well known, that oxides are more readily reduced by free carbon than they can be by any carburet, in which state the carbon exists in white iron. In the case of the decomposition of metallic oxides by white iron, the carbon it contains would have a double task to perform—it would be obliged to have its affinity for the iron with which it was combined, overcome before it could act on the oxygen of the oxide, which it would then have to separate—thus involving a double action, in which the forces would be nearly balanced; on the other hand, the free carbon of the grey iron would be in a fit state for immediate service—so that we can readily conceive how the latter should be a more powerful deoxidating agent than the former metal. In the case of the air more readily oxidising the carbon of the white iron, we have, as stated by me on the 29th ult., two combinations of the same class giving in at once—that is, two simultaneous oxidations—in this we have two opposing actions which nearly balance each other.

I do not know how "Ferreus" could understand, from my communication, that I meant the iron in the puddling-furnace was not equally and gradually decarbonised. I conceive I stated, that the oxidation does go on gradually, and that it is not a mere expulsion of the carbon, but a true oxidation. I think "Ferreus" must be confounding the mechanical with the combined carbon. I again say, that the latter form is more oxidisable in the puddling-furnace than the former—that is to say, when it is exposed freely to the air at a high temperature. I am much obliged to "Ferreus" for the hints in the latter part of his letter.—J. MITCHELL: *Hawley-road, Kentish Town, April* 12.

THE DISCOVERIES OF 1846.

SIR,—Your paragraph on the inventions of the last year suggests that there can be no insuperable difficulty in applying the electric force which fuses copper to the generation of steam, saving the cumbrous apparatus and expense of fire. Could the great author of the *New Atalantis* step from his grave among us, how fast would he see his predictions being realised—predictions which in his day, and long afterwards, were held wilder than the dreams, so-called, of alchemists. Our posterity in time may smile at their antiquated fathers, who possessed no better means of obtaining heat—a clumsy and inelegant race—than burning coal. D. MUSHET, Jun.
Gloucester, April 14.

ELECTRICITY IN VENTILATION.

SIR,—I think the suggestion of "J. M.," on the firing of destructive gas by electricity, very worthy of consideration. It is certain such combustion would have prevented many calamities, which have arisen from defect of sufficient care in obtaining the *absence* of these gases. The evidence on inquests, and our own experience, assure us that there is no deficiency of means for enforcing a strong current of air; it is in the *non-application* of that current to dangerous quarters, trusting to its force in coursing through the principal air-ways and active workings, to produce safety, that has produced danger. At Ardsley, there was as much air as a candle could be kept alive in; but it appeared it had not been carried through the waste workings, as was shown in evidence might easily have been done *at some little expense*. Where this expense is not taken, the gases accumulate; and, were they exploded from time to time, ere they reached a tremendous force, the benefit would be unquestionable. The particular feature of Mr. Gibbons's book, is the provident application of his ventilating power, under a number of combined conditions; without the union of which, he states distinctly, he cannot consider a colliery safe. It is a great pity so many of your correspondents should have run off with the notion, that Mr. Gibbons's book contains some insulated idea, for they have deprived themselves of the benefit of some very careful and solid details. A grave passage is quoted by "X." from Dr. Ure, to prove that Mr. Gibbons did not invent those air-chimneys, which every resident in a coal district must be familiar with from boyhood. Mr. Gibbons no more claims the invention of chimneys than "X." of pot-hooks, though the letter has a similarity. Mr. Gibbons abstains from *modes of working*, that he may not embarrass his principal idea; but, in his *plans*, the coal always seems worked backwards. This is a great element of safety, instead of passing on to work through the confines of destructive reservoirs, 700 or 800 yards long, and 15 wide, as at Barnsley, ready, at any change of temperature, or fall of roof, to protrude their contents upon the lights, and form a train, as proved upon the inquest, to fire the whole. The simultaneous accidents which have occurred at home and abroad this spring, have probably originated in meteoric changes—the thermometer having, for nearly four months, been about 32°—a sudden rise of 10° has probably expanded the gases, and thus produced danger, where there was previously safety.
Gloucester, April 14. DAVID MUSHET, Jun.

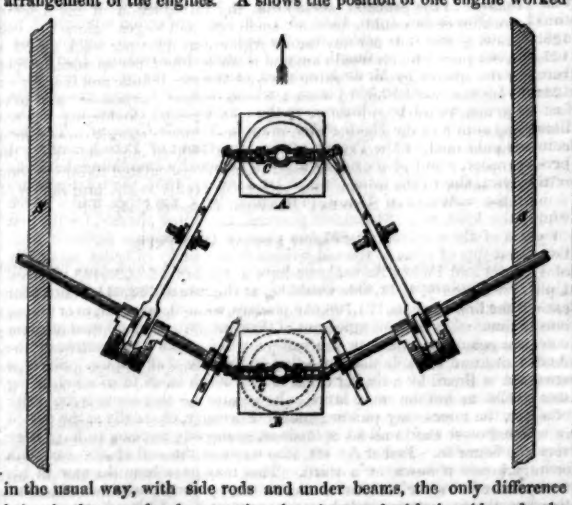
MANUFACTURE OF IRON—VENTILATION.

SIR,—Not having seen the *Mining Journal* regularly for a few weeks past, I fear I may have missed some clever remarks, but I will endeavour to refer back. I see, however, that the object I had in view, in publishing my crude ideas, is accomplished. I wished to draw remarks and observations from men of greater experience, and who have had more opportunities than myself. I am much obliged to Mr. Mitchell for his analyses of different sorts of iron—they are curious. There is something paradoxical about the matter, and I hope to see the inquiry prosecuted by your other correspondents. I saw the letter of Mr. Mushet, jun., in the Journal of the 2d of January, and it appeared to me, that the plan of filling furnaces, which he described, was very good, and I am happy to learn that it is going on well. Will Mr. Mushet, jun., have the goodness to inform me, if steam has ever been distributed through the materials in the upper part of a furnace, where no formation of iron, no fusion, can possibly take place? I am aware, that steam has been blown in at the tuyeres, or somewhere near to them, which, I can conceive, would have a bad effect. I certainly have much to learn, and it is entirely with an object of gaining knowledge that I hazard my crude notions.

On the subject of ventilation, I beg to remark, that I consider any system defective, in which the whole of the inflammable gases, proceeding from new workings, is allowed to mingle with the entire atmosphere of the mine. Until some means be devised of removing a great part of the pure gas, without contaminating the general atmosphere, and converting some part into an explosive mixture, ventilation will never be safely carried on. Laying pipes throughout the whole of the workings, and drawing off from the top of the stalls, headings, or whatever technical term may be applied to the part of the working where there is no thoroughfare, some air, and with it most of the gas by air-pumps, or other exhausting apparatus, at the top of the shaft, may appear a more business-like way of going to work—but it would be expensive, and the pipes much in the way. It appears to me practicable, to confine some 20 cubic yards of gas in a canvas case—we will not call it a sack—made air-tight, soaked in water would do it; and this some six or eight boys could carry out, and let it escape at some point, where it was not likely to meet any flame. I am happy to find, from such a high authority as Mr. Mushet, jun., this is quite an original idea. It is likely to be tried, and, no doubt, will be improved upon.
Llandilo, April 14. SCRUTATOR.

BIRAM'S OBLIQUE PADDLE-WHEEL.

SIR,—I have great pleasure in complying with the request of your correspondent, "X. Y. Z.," in describing the mode in which I propose to connect the inner ends of the shafts of my oblique paddle-wheels, and the arrangement of the engines. A shows the position of one engine worked



in the usual way, with side rods and under beams, the only difference being in the cross-head connecting the piston rod with the side rods, the turned ends upon which the side rods vibrate being bent so as to be parallel with the axle of the paddle-wheels, their centres being in a line with the centre of the piston rods. The under beams will thereby work perpendicular to the paddle shafts, and one be connected to a crank on each shaft, The other engine B will be so fixed, that the centre of the bent ends of the cross-head may be in the same vertical line as the centre of the paddle shafts. The cylinder of this engine is inverted, the piston rod and cross-head working underneath the cylinder, the connecting rod being applied direct from the cross-head to the crank pin. C is the cross-head; 1, 1, are guide rods, upon which the cross-head works; 2, 2, 2, 2, are friction pulleys working against the inner side of the guide rods; 3, 3, 3, 3, are the bent ends of the cross-heads or centres, on which the side rods of A, and connecting rods of B, vibrate; 4, 4, are the under beams, connecting the engine A with the two paddle shafts; 5, 5, are the cranks worked by the engine A; the dotted lines, 6, 6, show the planes in which the cranks of the engine B revolve, these cranks being set at right angles to 5, 5. The arrangements of the air-pumps, &c., need not be shown, as they may be varied at the discretion of the engineer. P, P, show the paddle shafts, and S, S, the sides of the vessel. Another arrangement of engines, which I think might be made to work very well, would be by appropriating one engine to each paddle shaft, which might be either the common marine engine with side rods, fixed at right angles to the shaft to which it is applied, or oscillating engines placed under each shaft, between the cranks 5, 5. B would then represent the position of the air-pump, to be worked by a crank, and connecting rods at the end of each paddle shaft, attached to a cross-head above the pump, having bent ends similar to those engines first described. It appears to me, from "X. Y. Z's" description, that Mr. Perkins's floats must have been intended to have plane surfaces, which would be a defect, as, if they were deeply immersed in the water, the upper portion would obstruct the escape of the water, by revolving at so much less speed than the outer extremity—this would be obviated upon my plan, by the different angle at which every portion of the floats acts upon the water, whereby the water is thrown back at nearly equal velocities from all parts of it.—BENJAMIN BIRAM: *Wentworth, April* 12.

STEAM-BOILER EXPLOSIONS.

SIR,—Your correspondent, "X. Y. Z.," has given nothing new relative to the explosions in steam-boilers; and he seems to have overlooked the simple statement, that the steam-engine was pumping water into the boilers, and that they were red-hot—in fact, it was this water that kept the engine moving; for it is very evident, if the boilers were dry and red-hot, there was nothing expansive enough to make her go on. I may take this opportunity of giving "X. Y. Z." another instance of the practical advantage of having *two* safety valves on every boiler. One of the safety valves is pressed 10 lbs. higher than the other; this is an open steel-yard valve; the other, which may be termed the working safety valve, is the common steam-boat valve, being in a close box, and the spindle loaded with circular weights—a branch pipe letting off the steam. I have twice found this latter valve so fixed in its seat, that the steam was blowing at the higher pressed valve; and on taking a number of the weights off, and two men lifting, it would not move. On blowing out the steam in the boiler by the other valve, and cooling it down, the fixed valve became at once loose, and acted as well as ever—I could see nothing the matter. I have little doubt but electrical excitement was the cause of it—the only difference in the two valves at the time being the seat and valve of the *fixed working* valve being bright and polished from working, and the higher pressed valve being dull. I suppose "X. Y. Z." will allow the possibility of an explosion taking place if one valve only had been on the boiler?—E. G.: *April* 12.

VENTILATION OF MINES—MR. GIBBONS'S SYSTEM.

SIR,—How true are the premises and deductions drawn by *real practical* men as "V." (of Newcastle), who said, in the *Mining Journal* of March 6, that I must not feel surprised to have to record further explosions in mines working upon the above system—such, I am only sorry to say, I have the painful duty to record. As at the Yew-Tree Colliery, near Kingswinford, belonging to Mr. B. Gibbons, a very serious explosion occurred on the 23d of March, by which four lives were lost, and three others remain in a most precarious state. It is to be remembered, that this colliery is also fitted up with Mr. Gibbons's improved mode of ventilation, and is carried out under the direction of his "intelligent and indefatigable bailiff, Mr. Moses Taylor." The stack is 90 ft. high, 25 ft. area, and divided by a brick partition, in order to form two separate compartments, one for each shaft, with two heating apparatus, about the *size of an ordinary puddling-furnace*, placed on opposite sides of the ventilating stack, communicating severally with such compartments, in order to produce increased rarefaction. The upcast columns, which are contained in the air-chimney (trumpetting), are about 4-ft. area each, cut at the back of the brickwork in each shaft, and are connected with the stack severally at surface. The downcast columns—viz.: the two 7-ft. shafts—are connected with the horse or gate-road, driven on the floor of the coal seam; and a *sump* connects the gate-road with the air-head, which latter is continued to the bottom of the ventilating chimney, cut behind the brickwork. The air-head and sump are about 7-ft. area—the former being driven at the top of the coal, immediately over the gate-road, makes the sumps, or points of communication, about 6 yards through. Each pit is ventilated separately, and independently of each other, with 12½-ft. area in the ventilating stack at surface, for each pit.

As I have now detailed, with "truth and impartiality," the system adopted—at least, as near as I can, from the particulars gleaned at the adjourned inquest, held the 1st of April—I will now endeavour to show, that the verdict of manslaughter given against "Love" is altogether at variance with science or practical knowledge—that it was the system practised that was the sole cause of the explosion. The underground workings consisted of a gate-road, from 100 to 150 yards long—nearly at the end of which was a rise, or upthrow, of 6 ft.; and to cross this, the gate-road was, of course, cut on an *incline plane*. The communication—viz.: the sump that was cut up through the seam into the air-head—was an unusual distance from the end, or back, of the gate-road—consequently, that part of the gate-road lying beyond the communication was unventilated, and, being on an incline plane, became charged with gas to the level of such sump.

I would ask, why was this *unusual* length taken, without making a communication for air? It was acknowledged at the inquest, that it would take two men eight hours *even to bore* up through this thickness of coal, to form a *partial communication*; then it had to be cut up the whole width and breadth of the sump—consequently, *every* sump is attended with an *enormous expense*, and, I doubt not, would be to Mr. Gibbons's advantage to arrange these sumps at as great a distance as he possibly could, even as it is proved at the expense and life of others. I fearlessly assert, that the expense would be *two-thirds more* than the usual method, and not a *tenth part* so safe, as is proved by Mr. G.'s experiments. I can point out a colliery, not two miles from the one in question, and at work on the same seam—viz., the 10 yard coal—that has drawn between 200,000 and 300,000 *tons* out of two shafts, and not burnt a *single man, or boy*—while their neighbours have been constantly burning. I would, in justice to the respectable and praiseworthy managers of this specimen pit of Staffordshire, and also your readers, state that it is not ventilated by 90-ft. *stacks* and 2 ft. *trumpetting*, but by *gate-roading* and 7-ft. *shafts*, with a small fire at the *bottom* of the upcast. In the air-head, at the top of the sump before alluded to, was placed a 9-in. *pipe*, or *trow*, in order to carry the air to the back of the air-head, which was progressing in the direction of the 6-ft. rise, or upthrow, before alluded to, *through which* the *whole* of the air had to pass, after it had received a certain charge of *light carburetted hydrogen gas* and *expansion*, by the temperature of the mine, from men, candles, and the like—"Love's" shift being ended in the air-head, he unconsciously leaves his lighted candle placed in the air-head for the next man, where he had been at work, which, it appears, was the custom of the pit so to do—at which time, the doggy (overman) sends the seven poor innocent lads to "*brush out the sulphur*," as he calls it, that was lying at the back and top of the gateroad, contained in the angle passing over the before-mentioned rise of 6 ft.; the small quantity of gas that could possibly lie in such a place, it appears, was too much for the *weak current* to neutralise, in consequence of having to pass the 9-in. *pipe*; the explosive, mixture coming in contact with the candle left by "Love," ignited, went down the sump to the residue of the gas, which the lads were busily engaged in *brushing* and *beating out* with their *jackets*. Hence, the deplorable and lamentable catastrophe.

I presume, Mr. Gibbons cannot have, as an excuse, the extent of workings opened, which, as will be seen by the foregoing particulars, was *very limited indeed*; but I would ask, Mr. Editor, how long this sacrifice of human life is to be endured? How long are men and lads to be *scorched* or *blackened alive* in Mr. Gibbons's pits, because *he* will have *his* ends and views carried out in this system? Horrible and shameful to say, another explosion has taken place *since* the seven lads were burnt—but, miraculously, only one man got slightly burned; and, in the face of these and other facts, and the *advice* given by *practical gentlemen*, through your valuable columns, the system is still to be continued, at the risk of the life of *a whole pit's company*. Well this gentleman may not court *Government inquiries!* I have only to add, that the verdict must have been given in a very different quarter, if a Government, or even a scientific, inquiry had been instituted; in the stead of which, four parties were appointed to inspect and give evidence, *three* of whom are more or less *employed* by Mr. Gibbons; and disgraceful to hear that, at the adjourned inquest, April 1, on a scientific gentleman, whose *worth* and *excellence*, as a mine director, was acknowledged in your valuable pages of last week, asking *one* solitary question, the coroner was told by one of these *officials*, "that if questions were allowed to be asked by that man, the inquest would not be ended for seven hours!"—such was the conduct at this *humane, legal*, and important inquiry. I would ask Mr. Gibbons, and his "intelligent and indefatigable bailiff," Mr. Moses Taylor, one simple question—What is the amount of ventilating power obtained by rarefying a column of air, 12½ feet area and 50 feet long, by his present means? I presume the stack would not draw a current through extensive, or even limited, underground workings, and through 9-in. piping, when it could get a supply through the grating and door of the present rarefying apparatus, now in use by him.

I must take this opportunity of defying Mr. Moses Taylor to point out, through your valuable columns, *any* pit in the township, or district, of Oldbury, belonging to John Williams, Esq., that is *now*, or *was* when he made the assertion, acting under the Gibbonian system, or that any of Mr. Williams's pits *ever* worked under the system on an extensive scale.
Dudley, April 7. HENRY JOHNSON.

ON THE VENTILATION OF COLLIERIES.

Sir,—Your general advocacy of the cause of humanity in mining matters, and the excellent observations by the Editor of the *Daily News*, of the 23d March, which you published in the *Mining Journal* of the 27th, upon the recent explosion at Messrs. Frith, Barber, and Co.'s Oak's-pit Colliery, near Barnsley, have induced me to offer a few remarks upon the importance of Legislative and Government inspection, especially as this seems a question yet undecided—not only amongst persons interested in collieries, but also amongst the scientific and enlightened. It is the more gratifying to me to do so, since I accidentally was favoured by an introduction to the meeting of the Institution of Civil Engineers, where a paper upon the subject of "Ventilation of Mines" was read by Mr. Richardson, C.E., &c.; in the discussion of which, sentiments were expressed very similar to your own, as to the advantage of Legislative and Government inspection—at the same time, the influential and scientific of the meeting were adverse to any interference on the part of Parliament. I will, therefore, feel obliged if you will favour me with a corner of your valuable paper, for the purpose of recording a few remarks upon this important subject.

Aware of the natural prejudice which prevails against attempts to interfere with what are called vested rights, yet we cannot shut our eyes to the progressive advance of legislation on the inspection of vessels sending to sea, of laws against cruelty to animals, and of the power of overlooking factories and railways—all showing, that in point of principle, Government legislation maintains the right of interference with the arrangements of property that may affect the safety of any portion of the public. A succession of serious explosions in this part of the country, led to an investigation before the Parliamentary Committee of 1835, wherein a mass of *information was* collected; and, although the most scientific and practical persons were examined, yet the result seemed but to produce the most contradictory and conflicting evidence, in the various methods pursued as to ventilation, and the various qualifications of the different safety lamps there exhibited; and, as these investigations were not followed up by any Parliamentary enactment, each individual and every district was left to its own fashion, and to adhere to its own prejudices.

The first step taken by the Legislature was the appointment of a Royal Commission, and a number of inspectors, whose instructions were to visit the various mining districts, and investigate, by personal inspection and examination, the state of the mines, and the condition of the workmen. The commission published their report in 1840, containing copious extracts from the examinations, accompanied with the details of evidence, and by drawings in illustration of many of the hardships which were imposed upon the people, and especially upon the women and children; the publication of the report and evidence placed the state of mining before the public in a manner which had never happened before, and laid the foundation for the first Parliamentary movement, by Lord Ashley, who succeeded, in the year 1842, amidst much opposition, in obtaining an Act, entitled, "*An Act to Prohibit the Employment of Women and Girls in Mines and Collieries, to Regulate the Employment of Boys, and to make other Provisions relating to Persons Working therein.*" His lordship sought to procure a more general interference with the working of the mines, but the opposition was so strong, that the Act was restricted as above. In clause 3, it provides for inspectors—viz.: "And be it enacted, that it shall be lawful for one of her Majesty's Secretaries of State, and when he shall think fit, to appoint any person to visit and inspect any mine, or colliery, and to make inquiry touching any matter within the provisions of this Act; and every person so appointed, shall report the state and condition of the persons working in such mine, or colliery," &c. Since that period, and from time to time, the recurrence of dreadful accidents has caused various appeals to be made to successive Governments—but the first movement on the part of Ministers was made, in consequence of the Haswell explosion in 1844; for, whilst the inquest was proceeding, a demand arose upon the part of the miners for Government investigation, and which was immediately responded to by Sir R. Peel, who appointed Messrs. Lyall and Faraday (gentlemen eminent for their scientific acquirements) to come down forthwith to inspect the mine, to attend the investigation, and to report to the Government. The explosion at Jarrow Colliery occurred in the year 1845; when Government, again actuated by a desire of discovering the cause, and of administering remedies for such casualties, sent down representatives (Messrs. Playfair and Williams), who also examined the mine, and interrogated persons concerning the nature of the catastrophe. Scarcely had the excitement arising out of the explosion at Jarrow subsided, when it was succeeded by that at Risca, in South Wales, and again the Government thought it necessary to send commissioners, for the avowed purpose of ascertaining the nature of these direful events, and to endeavour to furnish grounds for legislation. The explosion at Oldbury, in Staffordshire, in 1846, induced the Government again to interest themselves, when Sir H. Smythe was appointed the commissioner to examine and report.

We come now to the last dreadful explosion at Ardley, Yorkshire, within the last few weeks, which seems again to have awakened not only the Government, but the public, to the importance of the subject; and, accordingly, we find the coroner and jury so deeply impressed with the responsibility of their office, that they call for the interference of Government, and are answered by the appointment of Sir H. De la Beche and Mr. W. Smythe; and, at the same time, the mine was examined by several disinterested colliery viewers. It is material to observe, that so important did the Yorkshire jury consider the subject, that whilst they brought in a verdict of "accidental death," they added, "that the jury are of opinion, that efficient regulations are not enforced in this district, to prevent the use of naked lights in those parts of coal mines, where inflammable gas is known to exist; and are further of opinion, that the recurrence of accidents, involving so large a loss of human life, demands the immediate attention of her Majesty's Government, and would justify Parliament in framing such a code of regulations as would give greater security to persons employed in mining operations." The jury requested the coroner to forward their sentiments to the Secretary of State.

Here, then, is a broad and conscientious opinion of 12 jurymen, who have investigated with laudable scrupulosity the evidence which came before them, and who, under the solemnity of an oath, urge upon the Government their conviction, that salutary results, would arise from legislation. In the above brief details, I trust I have shown that the subject of Government legislation is not new—that it has frequently been contemplated—that the public upon many occasions have urged it—that scientific and practical persons have written in favour of it—and that the colliers have petitioned for it—therefore, it now remains to be seen whether the subject is ripe for legislation, what ought to be the practical arrangements, and what the powers, conferred under such an Act. With all due regard, therefore, to the objections of many talented and scrupulous persons, I beg leave humbly to submit the following suggestions as to the present state of matters, and the effect which, it is presumed, would arrive from Government interference. The numerous controversies with which the public papers abound, and the experience of all practical persons, prove that a variety of systems of working and ventilating mines exist—that many of these systems are faulty—that certain systems are acknowledged to be superior to the others—and the application of which would not only effect safety to the people, but would also tend to economise the working of the mines. These premises once admitted, it necessarily follows that life and limb are often needlessly sacrificed—hence, would it not be most desirable that, under the coercive power of an Act of Parliament, mine proprietors should be held obliged to adopt those measures which, in the opinion of proper judges, were best calculated to ensure the safety of the workmen?

In enforcing any such measure, no doubt it is desirable to guard, as much as possible, against those objections so constantly urged. I should, therefore limit the provisions of such Act to the appointment of district inspectors furnished with necessary powers to exact general measures of safety—viz. that the shafts and air-courses should be adequate to the requirements of the mine—that the machinery, ropes, chains, timbering, &c., should be sufficiently good—that the workmen should have the necessary attendance to provide for their safety—and that the maximum power to be entrusted to these inspectors, should be the exaction of certain penalties, or the suspension of such parts of the works, as in their responsibility they judged unsafe. But, as it is not the object of the present letter to enter into details, I will confine myself to the remark, that the registration of plans, the statistics of the mining districts with regard to population, the produce and consumption of the respective minerals, of which there is at present no recognised record, might be compassed under such an Act, and on which matter the continental Governments of France, Belgium, and Prussia, so far excel us. In short, whilst Government legislation insured measures of health and safety to the miners, it could not fail to spread more rapidly than at present the most improved systems of mining—thereby advancing the interests of mineral proprietors, whilst it husbanded the invaluable resources of the country to mineral wealth.—D.: *Newcastle-on-Tyne, April 5.*

VENTILATION OF COLLIERIES—CAUSE OF ACCIDENTS.

Sir,—I have read the letter of your correspondent, "Alpha," in your Journal of last week, in which he describes "an efficient and safe" mode of ventilating a pit, "however fiery it may be." The chief feature in his system seems to be, to have three shafts, instead of two, and a well-constructed air-road, of not less area than the downcast shaft, and which he would carry at the top of the coal; I should like to know, how he would carry his air-course at the top of the coal, in a seam of 3 or 4 ft. in thickness? He also would, probably, find it rather difficult "in practice," to fix on the most suitable point near the centre of the coal-field, and at the extreme rise, to put down his working pit. In winning a coal-field there are generally so many contingent circumstances present themselves, every one of which, demands, and must have, a due share of consideration from the coalowner or his agent, the most prominent of which arise from the dislocations of the strata by dykes or troubles, the quicksands likely to be met with, the easiest and least expensive mode of transit for the mineral produce, the enormously expensive way-leaves, and the like. Under ordinary circumstances, the sinking of shafts are very expensive; and if the same end can be accomplished by two, which "Alpha" proposes to effect by three shafts, surely the expense of sinking one, of only 5000*l.* or 10,000*l.*, is a sum not to be disregarded, even in this age of gold—of course, in a district where the coal lies at a less depth from the surface, this remark would be more limited in its application. "Alpha" would find it very difficult, if not utterly impracticable, to avoid splitting or "throttling" the air in a colliery, whose workings only extended over a very limited area. The more I consider the subject of ventilation, the more firm is my belief, that the *cause* of the numerous and fatal explosions of fire-damp is not so much the want of more shafts, or from the almost unavoidable practice of splitting the air and the like, but from reckless men and boys having an unlimited control over their own lights. I will mention a few cases in point:—1. In December last, Edward Swift, of Torbock, a lad aged 17, wilfully attempted to blow up a coal mine by gunpowder, belonging to R. Willis, Esq., of Whiston.—2. In the same month an explosion of fire-damp took place at Trubshaw Colliery, by which three men lost their lives; the evidence before the coroner went to show, that one of the sufferers had taken off the top of his safety lamp to light a candle, by which the accident had been caused. On hearing the evidence, one of the jurymen said, "the masters take more care of the men than the men take of themselves."—3. A slight explosion took place a short time since at Coxlodge Colliery, by one of the men passing through a trap-door, with a naked light, after being charged not to do so.—4. A short time after the late dreadful accident at Haswell Colliery, a lad, a plate cleaner, was cleaning the tram-plates with hay, which I understand he had accidentally got hold of; a lucifer match had been dropped amongst it, either wilfully or accidentally—the friction on the plate lighted the match, and the hay was immediately in flames.—5. A partial explosion took place in a colliery belonging to Messrs. Knowles, of Clifton, in March last, by John Rothwell having entered a "foul-place" with his naked light, being fully aware of the foulness, and by which his life was sacrificed. Other circumstances of a similar character might be brought forward in support of my views, but I consider the above sufficient. To fix up and lock the lights from the men and boys, as I suggested in my letter inserted in your Journal last week, probably would have difficulties to get over in the details, but which a little perseverance and determination on the part of the responsible parties would presently overcome.

There is another source of evil in the present system of ventilation, and one which I consider to be of great importance—that is, there is no ready practical method of ascertaining the velocity of the air in the air-courses, except by having recourse to the smoke of gunpowder, or the flame of a candle—both dangerous expedients in themselves. The downcast may be of sufficient area to admit an abundant supply of air, and the air-courses may also have an ample area for conveying it into and through the "workings;" but any person, slightly acquainted with the ordinary casualties which almost daily and unavoidably occur in a pit, to interrupt and derange the current of air in its various windings, from the downcast to the upcast shaft, must at once admit the necessity of a certain and safe method of determining the velocity at any hour of the day. When calculations are made relative to the velocity of the air in a coal mine, more respect is generally paid to the quantity of air the courses are *capable* of admitting into them than the actual quantity which is admitted.

I know an instance where the ventilating current was completely reversed through the negligence of the furnace-man—the upcast actually became the downcast; and this happened more than once in the same colliery. Were anemometers, or wind-gauges, fixed up in suitable places in the air-courses, or at the top of the upcast shaft—so that the viewer, or man having the charge of the pit, could at once satisfy himself relative to the regular efflux of the air—would, I believe, tend greatly to diminish explosions of fire-damp. The lives of hundreds, it may be, in one colliery depend upon the regular transmission of air through the "workings;" and surely this is a matter of too great importance to be left to chance, or to the rule of "thumb." I have pursued these remarks to a greater length than I at first intended, and, unfortunately, I have nothing to plead in extenuation but the importance of the subject.

Since writing my letter of the 30th ult., I have made some calculations relative to the probable *saving* that the introduction of my machine for working coals would effect in "small coal and wages" alone in a colliery, drawing 240 tons per day, and working four days per week for 52 weeks in the year, I find it would amount to about 4000*l.* per annum, independent of the advantages of working the coal at fewer points, and thereby simplifying the ventilation, to work the coal *without gunpowder*, and to enable the men to work with safety lamps without *any* naked lights. It now remains to be seen whether the prejudices known to exist in favour of the present mode of working coal, fraught with so much danger to life and property, will give place to improvements, calculated to afford comparative safety to the miner, and increased profits to the proprietors of coal mines.—William Storey: *Bensham, Gateshead, April 8.*

VENTILATION OF MINES.

Respected Friend,—The numerous papers which have been published in thy columns, on the ventilation of mines, if they have not settled the question, as to the best mode of ventilation, have explained a number of plans which deserve attention; yet, if we must believe the various writers, we must conclude that all these plans are either perfection itself, or totally worthless, as each pleads for a particular plan and condemns all the others; but still considerable light has been thrown on the subject, and I think it must be evident, that all the plans proposed possess considerable merit, but that each separately is not to be exclusively depended on in large mines—so that, instead of discussing the relative merits of each, it would be better to adopt them all at once: thus, the ventilation by means of a chimney possesses many advantages, being economical, the principal expense being the erection of the chimney; yet it seems unreasonable to expect, that a thorough ventilation could be attained by these means in all cases, though possibly it may in some. The plan of W. P. Struvé must be very valuable in deep mines; and I would suppose that some mines might be ventilated by his patent ventilator, which it would be difficult to ventilate by any other means—for of course, for every volume of air removed from the mine, an equal quantity of fresh air must enter from without—this plan I had originally proposed for ventilating submarine tunnels in the first papers which I wrote on the details of the invention, several years since, and I then thought that this plan was universally adopted in mines; the principle is, certainly, not new; but I suppose that the patentee claims simply the form of the air pump as his invention. It would seem, that to doubt the efficacy of the air-pump for this purpose, would be equivalent to doubting the possibility of propelling trains on a railroad by atmospheric pressure, for the principle is essentially the same. It can, therefore, be questioned only in an economical point of view, and that is a question to be solved by practical miners—experience, in such cases, is the only test. Another plan, which has been proposed, and alluded to by D. Mushet, jun., but which has not evidently received the attention it deserves, is that of admitting steam in the mine. D. Mushet states, "that one cubic foot of water will, by producing 1700 cubic feet of steam at 212°, displace an equal quantity of air"—this is the generally received opinion certainly; but it will be found in practice, that a volume of steam at 15 lbs. pressure per square inch is required to displace an equal volume of air—this I have found by experiment: the cause of this is, that steam at 212° mixes instantaneously with the air, and condenses with amazing rapidity, and this, instead of forming a vacuum by condensation, simply leaves a white vapour, composed of minute particles of water and air; but if the steam is at 15 lbs. pressure, the air is rapidly displaced. I would suppose this plan valuable principally in expelling carbonic gas from a remote part of the mine, so as to bring it within the current of air produced either by fire or by the air-pump. It will be, in my opinion, only by a combination of those various plans, that perfect safety and freedom from those terrific accidents, which are in reality a disgrace to a scientific age, will be attained. Let an air-pump, a chimney, and a steam-boiler, be kept in constant operation in every mine, and it may be safely predicted that inquests over the mangled remains of human beings will be soon unknown. Possibly this will be objected to on the ground of expense; yet, what will that be in comparison to the cost of pumping the water from some mines? In the latter case, however, if the work is neglected, it is the owner of the mine who is the loser; while, if it is the ventilation which is defective, it is the miners who lose their lives; and these are, apparently, very easily replaced. Yet we can hardly suppose, that effective ventilation is not adopted on the ground of expense, in all cases—the thought is so revolting, that in charity we might consider it a calumny on human nature; yet the apathy displayed by many individuals, when the safety of others is concerned, would seem to warrant the intervention of a power, to compel persons to adopt effective means to prevent the destruction of those individuals whom they employ. Until this is done, we may, perhaps, hear a great deal of the disastrous effects of defective ventilation. John De la Haye.

Liverpool, 4th mo. 12.

VENTILATION OF COLLIERIES.

Sir,—Mr. Deakin has anticipated me, in supposing that shaft C would also be the drainage pit at which I should pump per water wheel, if water could be commanded, and which is the case in hilly countries, generally speaking; in fact, where practicable, I should always prefer a water-wheel at my winding-pit, being by far the cheapest motive-power; but I conclude I shall be much condemned for saying so in this age of steam. I have several times in my life been much surprised at seeing steam used, where water-power could have been at a considerable saving. But I digress from my subject. With all good feeling, I must beg to decline Mr. Deakin's invitation to describe my plan of working a colliery; as a practical man, he must be aware that what I would advance for one coal field might not suit another, so varied are localities and circumstances; and thus I should be led into an endless controversy *without any good result*, and this I am anxious to avoid. What I would wish to impress upon proprietors of collieries is, attention to the three pits, situated as I have described in your impression of April 3; attention also to area of windroads, carrying the air in a body as high as practicable; also, the size of upcast shaft, with chimney at top and furnace at bottom, and. I should also have added, a furnace at surface, to be used in sultry weather, or whenever the ventilation is sluggish. I cannot approve of Mr. Gibbons's plan of chimney, built in one of his shafts; it is very far inferior to my plan of three pits (and, in fact, he has three pits); he must always have the upcast flue, or pit, very much smaller than the downcast pit, and this is not right: every body knows that air heated expands; and, therefore, air descending to the workings at a temperature of 40 degrees, when it is increased in its transit to the bottom of upcast shaft to 65 degrees or 70 degrees, must require a larger space to discharge itself, instead of a smaller, which Mr. Gibbons gives it; and, as long as he continues this plan, so long will he be liable to a recurrence of loss of life in his pits—an account of which I saw lately in in your paper. I was not surprised to read this sad account, although the proprietor has written a book on *Ventilation*, from the very fact of his starting in the common error—that of his winding pits having anything to do with ventilation. From the experience I have had in colliery viewing (and which has not been trifling), I am convinced, that the three pits I have described, would, in the long run, in a fiery colliery, prove a saving, instead of an additional cost. Perhaps, Mr. Deakin could inform your readers, whether Mr. Russell, of Risca, would not, ere this, have found three pits on my plan a saving; if I remember right, Mr. D. is in that locality, and was called in to view this colliery after the sad havoc, occasioned by an explosion of fire-damp.—Alpha: *April 13.*

RICHARDSON'S REVERSING WATER-WHEEL.

Sir,—I presume that Mr. Richardson has put forth the design which appeared in your last Number of the *Mining Journal* as his own invention, and which it *may* be; but I happen to know that Capt. W. Brenton, of Helston, in or about the year 1833, erected a wheel, precisely like that represented by Mr. R., at Treliver Mine, near St. Columb, for drawing ores and "deads" from the mine: so that the invention is not *new*.

Truro, April 6. R. Symons.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	Address.	Day.	Hour.
Asiatic	14, Grafton-street	Saturday	2 P.M.
Statistical	12, St. James's-square	Monday	8 P.M.
Chemical	Society of Arts, Adelphi	Monday	8 P.M.
Medical	Bolt-court, Fleet-street	Monday	8 P.M.
Pathological	21, Regent-st., Waterloo-pl.	Monday	8 P.M.
Linnæan	Soho-square	Tuesday	8 P.M.
Horticultural	21, Regent-street	Tuesday	2 P.M.
Civil Engineers	25, Great George-street	Tuesday	8 P.M.
Microscopical	21, Regent-street	Wednesday	8 P.M.
Ethnological	37, Sackville-street	Wednesday	8 P.M.
Royal	Somerset-house	Thursday	4 P.M.
Medico-Botanical	32, Sackville-street	Thursday	8 P.M.
Syro-Egyptian	71, Mortimer-st., Cav'ndsh-sq.	Thursday	7½ P.M.
Antiquaries	Somerset-house	Friday	2 P.M.
Royal Institution	Albemarle-street	Friday	8 P.M.
Philological	Lond. Lib., 12, St. James's-sq.	Friday	8 P.M.
Westminster Medical	27 A, Sackville-street	Saturday	8 P.M.

INSTITUTION OF CIVIL ENGINEERS.

March 30 and April 13.—Sir J. Rennie (President) in the chair.

The discussion upon Mr. Richardson's paper, "On the Ventilation of Mines," was continued through both these meetings, to the exclusion of any other subjects. The various methods of ventilation in use in the mining districts of Great Britain were fully described, and their peculiarities discussed. The causes of accidents by explosions, and the consequent choke-damp, was inquired into; and the fitness of the attempted methods of prevention or cure was debated upon. The method of exhausting the air was contrasted with that of forcing it forward into levels by means of bellows and pipes. The system used in the north of placing a furnace at the bottom of the upcast shaft was insisted upon as that best calculated for the extensive mines of that district; while the method introduced by Mr. Gibbons in Staffordshire, of exhausting the foul air by air-heads, cut at the top of the coal, connected with a channel in the side of the shaft, terminating in a chimney on the surface, was received as a decided improvement upon the ordinary system in use in that coal basin, where the extraordinary thickness of 30 ft. of the vein of coal render a peculiar plan indispensable. Various methods of attempting to carry off the foul air from the goaf, whether by additional shafts or by bore holes, were proposed, and shown by the mining experience to be totally impracticable, and calculated to be rather prejudicial than useful. The interference of Government was strongly insisted upon, and as decidedly objected to by those miners whose long experience and good judgment entitled their opinions to deference and consideration. It was shown that the foreign mines which were under the constant superintendence of Government engineers, far from being exempt from accident, were not only more liable to the effects of deficient ventilation, but that the actual loss of human life was greater than in England; and, that if our mines were subject to the same annoying trammels, the price of fuel must be unduly raised without any corresponding advantage, or an immunity from danger. There could be no objection on the part of the coal-owners to the formation of an association for regularly inspecting and reporting upon the states of the various mines, the communication between the various districts of the methods found to succeed best under the attendant peculiar circumstances; but there were good and valid reasons given why such a power should never be tamely placed in the hands of any Government officers, with the examples now before the country of the utter uselessness of the various commissions that had been appointed to report on technical subjects, and whose whole labours appeared to have been directed to puffing some nostrum, no doubt, strongly recommended by some one having authority.

The subject of safety lamps and their uses were also fully discussed—Dr. R. Clanny's first invention of the lamp in 1813, which necessarily failed from its cumbrous form and inapplicability for working purposes, and the recent form he had adopted, combining portions of the other lamps in use, so as to show a bright light, and yet be free from danger; the extraordinary coincidence of inventive thought between Sir H. Davy and Mr. G. Stephenson, the one acting upon purely chemical theory, and the other upon mechanical knowledge and practice, and yet both simultaneously producing lamps which were almost identical, and which still remained very generally in use under the names of the Davy and the Geordie. Our limits will not permit a more extended notice of these discussions, which were replete with interest from the information displayed, as well by the purely scientific debaters, as by the eminent practised engineers, who take the lead in the animated debates upon the papers read at the meetings of the institution.

At the monthly ballot, the following candidates were elected:—Messrs. J. T. Harrison, as a member, and T. Donkin, E. Highton, and W. E. Mylne, jun., as associates.

WESTERN LITERARY AND SCIENTIFIC INSTITUTION.

April 12.—J. K. Hewitt, Esq., in the chair.

In another column will be found an abstract of a paper, on a subject of much importance—viz., the best means of protecting buildings, &c., from the effects of discharges of atmospheric electricity—delivered at this institution, by Mr. William Smith (son of Mr. Andrew Smith, the patentee of the galvanised iron wire rope). We are much pleased with the introduction of a feature in the arrangements of the institution, so calculated, as the reading of practical papers of this nature must be, to advance its utility and general interest; and we shall have pleasure in occasionally publishing similar articles to the one referred to, which, besides affording information to our readers, will also give satisfactory proof of the progress of the institution.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending April 10, was 25,448; amount of money, £106 0s. 6d.

RAILROADS IN THE UNITED STATES.

[FROM A CORRESPONDENT.]

Name.	Length.		Cost.	When Opened.
Bangor and Oldtown	Miles 10		$ 150,000	1836
Atlantic and St. Lawrence	—		just com.	—
Portland, Saco, and Portsmouth	51		1,200,000	—
Boston and Maine	55½		1,534,276	1839
Great Falls Branch	2·9		—	1843
Boston and Maine Extension	17½		400,816	1845
Eastern	54		2,206,382	1839
Marblehead Branch	3		—	1839
Gloucester Branch	12		12,142	1845
Boston and Lowell	25½		1,187,076	1835
Woburn Branch	1·9		45,522	1845
Nashua and Lowell	14½		380,000	1838
Concord	35		750,000	—
Northern	63		unfin.	—
Central	102½		„	—
Charlestown Branch	49½		327,399	1839
Fitchburg			1,477,477	1843
Lexington and West Cambridge	7		unfin.	—
Cheshire	45		„	—
Champlain and Connecticut River	116½		„	—
Vermont and Massachusetts	65		„	—
Boston and Worcester	44		2,914,078	1835
Saxonville Branch	—		unfin.	—
Millbury Branch	3½		—	—
Worcester Branch	1		9,827	1844
Worcester and Nashua	45		unfin.	—
Norwich and Worcester	66		2,170,493	1840
Providence and Worcester	—		unfin.	—
Boston and Providence	42		1,964,677	1835
Dedham Branch	2		—	—
Stoughton Branch	4		88,418	1835
Taunton Branch	11		250,000	1836
Stonington	47½		2,600,000	1837
Quincy	4		60,000	1827
Old Colony	37		833,535	1845
United Corp. of Fall Riv. br. Middleboro', Randolph and Bridgewater	—		unfin.	1845
New Bedford and Taunton	20		453,623	1840
Connecticut River	36		unfin.	1845
Chicopee Branch	2		—	—
Hartford and Springfield	6		177,714	1844
Hartford and New Haven	19½–37		474,957	1839
Pittsfield and North Adams	20		—	1846
Western	117		5,981,928	1839
Albany and West Stockbridge	38½		1,759,828	1842
Hudson and Berkshire	31		575,928	1838
Berkshire	23		250,000	1842
West Stockbridge	2½		—	1838
Housatonic	73		—	1839
Brooklyn and Jamaica	11		440,000	1836
Long Island	85		1,753,047	1837
Hempstead Branch	2½		13,000	1839
New York and Erie	53		2,106,713	1841
New York and Harlem	27		1,213,456	1839
(Canagoharie and Catskill)	—		un. and dis.	1839
Troy and Greenbush	6		233,371	1845
Schenectady and Troy	20½		641,540	1842
Rensselaer and Saratoga	25		475,801	1835
Saratoga and Schenectady	21½		300,000	1833
Mohawk and Hudson	17		1,460,991	1832
Utica and Schenectady	77½		2,189,505	1836
Syracuse and Utica	52½		1,086,873	1839
Syracuse and Onondaga	4½		42,750	1837
Auburn and Syracuse	26		768,273	1839
Skaneateles and Jordan	5 1–5		28,211	1840
Auburn and Rochester	78		1,932,045	—
Rochester	3		30,000	1833
Tonawanda	43½		751,653	1837
Attica and Buffalo	31½		303,608	—
Buffalo and Niagara Falls	22½		217,473	1837
Buffalo and Black Rock	3		21,650	1834
Lockport and Niagara Falls	24½		195,000	1837
Lewiston	3½		27,050	1837
Scotsville and Caledonia	8		32,000	1838
Medina and Darien	20		20,000	1836
Cayuga and Susquehannah	28½		593,393	1834
Tioga Coal, Iron, and Manufacturing Company	40		400,000	1840
Paterson and Hudson	14		400,000	1834
Morris and Essex	23		327,059	1838
Elizabethtown and Somerville	24		350,005	1839
New Jersey	34		1,850,000	1836
Camden and Amboy	61½		2,105,820	1834
Bordentown and Trenton Branch	6			1839
Trenton and New Brunswick	24		510,000	1839
Trenton Bridge	1½			1839
Johnstown	—		—	—
Camden and Woodbury	7		100,000	1833
Philadelphia City	6		—	—
Philadelphia and Trenton	30		—	1834
Philadelphia, Germantown, and Norristown	20½		1,103,849	1832
Germantown Branch			—	—
Reading	93		10,338,530	1839
Little Schuylkill	29		335,665	1831
Catawissa	51		un. and dis.	—
Beaver Meadow Extension	9		100,000	1827
Mauch Chunk	5		150,000	1833
Room Run	20		—	1841
Susquehannah and Lehigh	16½		337,157	1829
Carbondale	26		360,000	1836
Beaver Meadow	10		100,000	1838
Hazleton	5		50,000	1839
Sugar Loaf Summit and Stafford	4½		100,000	—
Buck Mountain	24		80,000	1844
Mount Carbon and Port Carbon	10		—	1830
Schuylkill Valley	5		—	1830
Mill Creek	9		—	1830
Mount Carbon	11½		—	1831
Mine Hill and Schuylkill Haven	5		—	—
West Branch	1		—	—
Wolf Creek Branch	2½		—	—
Muddy Creek Branch	7½		—	1845
Swatara Extension	6		—	—
Lorberry	5		—	—
Good Spring Creek	4		—	1830
Pine Grove	20½		670,000	1838
Pottsville and Danville	4 1½		—	—
Bear Creek and Buckridge Branches	25		437,000	1830
Williamsport and Elmira	16		—	1839
Lykens Valley	82		4,204,969	1834
Columbia	9		un. and dis.	—
West Philadelphia	20		„	—
Valley	9		110,000	1834
West Chester	36		858,000	1837
Harrisburg and Lancaster	50		600,000	1837
Cumberland Valley	10		—	1839
Franklin	36½		1,850,000	1834
Portage	41½		666,666	—
Gettysburg Extension	12		360,000	1839
York and Wrightsville	98		4,099,856	1837
Philadelphia, Wilmington, and Baltimore	16½		559,000	1832
Newcastle and Frenchtown	58		2,828,862	1831
Baltimore and Susquehannah	10			1831
Westminster Branch	178		7,742,419	1830
Baltimore and Ohio	31			1832
Frederick Branch	30½		1,650,000	1835
Washington Branch	20		400,000	1840
Annapolis and Elkridge	118		112,500	—
Eastern Shore	32		500,000	1836
Winchester and Potomac	75½		1,454,171	1837
Richmond, Fredericksburg, and Potomac	3½		—	1838
Deep Run Branch	35		408,000	1836
Louisa	13½		200,000	1831
Chesterfield	29½		675,000	1836
Richmond and Petersburg	9		210,000	1838
City Point	63		947,769	1833
Petersburg	17½		284,433	1837
Greenville and Roanoke	78½		850,000	1837
Portsmouth and Roanoke	1½		3,600	1838
Raleigh	84½		1,352,000	1839
Raleigh and Gaston	160½		1,760,000	1836
Wilmington and Raleigh	126		5,671,452	1833
South Carolina	66			1840
Columbia Branch	171			1837
Georgia	3½		2,800,000	1838
Warrenton Creek	39			1841
Athens Branch	190½		3,000,000	1838
Central	101		—	1839
Western and Macon	80		2,133,728	1842
Western and Atlantic	94½		un. and dis.	—
Hiwassee	24		180,000	1837
Tallahassee	8		120,000	1836
St. Josephs and Lake Winnico	23½		490,000	1835
St. Josephs and Iola	156½		un. and dis.	—
Alabama, Florida, and Georgia	76		„	—
Ocmulgee and Flint	25½		„	1837
Mobile and Cedar Point	12		„	—
Linden and Demopolis	27		„	—
Cahawba and Marion	170		„	—
Selma and Tennessee	56		„	—
Wetumpka and Coosa	85		47 m. 8s.	1841
Montgomery and West Point	45½		400,000	1834
Tuscumbia and Decatur	5		369,098	1831
Pontchartrain	63½		900,000	1830
New Orleans and Nashville	1½		50,000	1837
Bath	10½		500,000	1835
Carrolton and Brandon	1½		—	—
New Orleans City	5		unfin.	1839
New Orleans and Lake Borge				

RAILROADS IN THE UNITED STATES—*Continued.*

Name.	Length.		Cost.	When Opened.
Clinton and Port Hudson	Miles 28		$ 500,000	1839
West Feliciana	26		—	1839
Alexandria and Chenoyville	30		—	1839
Mexican Gulf	17		—	—
Mississippi	140		—	1839
Vicksburg and Jackson	45		1,800,000	1839
Raymond	6		60,000	1839
Jackson and Brandon	12		—	—
Grand Gulf and Port Gibson	7½		—	1839
Lagrange and Memphis	63		—	—
Lexington and Ohio	28		450,000	1835
Portage	1½		12,000	—
Mad River and Lake Erie	134		not fin.	1838
Little Miami	84		939,368	1839
Mansfield and Sandusky	56		—	1839
Cleveland and Newburg	6		18,140	1838
Fairport and Painesville	3		22,000	1839
Ohio	177		—	—
Southern	189		—	1840
Central	186		—	1833
Northern	201		—	—
Erie and Kalamazoo	33		300,000	1836
Palmyra and Jacksonburg	46		299,000	1838
Ypsilanti and Tecumseh	24		—	—
Raisin River and Lake Erie	4		44,000	1838
Detroit and Pontiac	25		—	1839
Shelbyville and Detroit	17		—	1839
Madison and Indianapolis	56		1,746,908	1837
Lawrenceburg and Indianapolis	—		—	—
Central—slate work	450		—	—
Peoria and Warsaw—slate work	116		—	—
Bloomington and Mackinaw—slate work	36½		—	—
Northern Cross, R. R.—slate work	230		—	1839
Alton and Shelbyville—slate work	108		—	—
Branch of Central—slate work	71½		—	—
Alton and Mount Carmel—slate work	147		—	—
Alton and Shawneetown—slate work	145		—	—
Rushville and Erie—slate work	10		—	—
Galena and Chicago	109		—	—
New Pittsburg and Mississippi	7		42,000	1838

Total length of miles, 9029; deduct for unfinished—say, 3000—leaves 6029 miles in operation, as far as can be ascertained.

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS of LOANS on DEBENTURES, in sums of not less than £500, for three or five years, bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.

Tenders to be addressed to this office.—Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order of the directors, D. RANKINE, Treasurer.

Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847. 59

CALEDONIAN RAILWAY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of the CALEDONIAN RAILWAY COMPANY will be HELD within the Royal Hotel, Edinburgh, on Monday, the 26th day of April next, at One o'clock afternoon, for the purpose of considering, and, if thought expedient, of sanctioning—

First,—An agreement for a lease, or guarantee, of the Dundee and Perth Railway, and its branches, by this company.

Second,—An agreement for a lease, or purchase, of the Wilsontown, Morningside, and Coltness Railway, by this company.

Third,—And also of authorising the raising of a further sum of money on mortgage or bond, under the powers of the "Caledonian, Polloc, and Govan, and Clydesdale Junction Railways Amalgamation Act, 1846."

And, for the further purpose of considering, and, if approved of, sanctioning, the following Bills, now before Parliament—the drafts of which will be submitted to the meeting, in compliance with the Standing Orders of the House of Lords—viz.:

(1.)—A Bill, or Bills, to enable the Caledonian Railway Company to extend their station in Edinburgh, and to make branch railways to Granton, to the Edinburgh and Glasgow Railway, to Wilsontown, to Fauldhouse, and to Biggar and Broughton.

(2.)—A Bill to enable the Caledonian Railway Company to extend their railway across the River Clyde, at Glasgow, and to form a station in that city.

(3.)—A Bill to enable the Caledonian Railway Company to make a branch railway from the Glasgow, Garnkirk, and Coatbridge Railway to Glasgow, and to enlarge the station in that city.

(4.)—A Bill to enable the Caledonian Railway Company to make certain branch railways in the counties of Dumfries and Cumberland.

(5.)—A Bill to enable the Caledonian Railway Company to make an extension of the Motherwell Branch of the Clydesdale Junction Railway to Auchinheath Mineral Field, with branches therefrom.

(6.)—A Bill to enable the Caledonian Railway Company to make branches from the Clydesdale Junction Railway to the Douglas and Lesmahagow Mineral Fields, and to Strathavon.

(7.)—A Bill to effectuate the sale of the Wishaw and Coltness Railway to the Caledonian Railway Company.

(8.)—A Bill to enable the Caledonian Railway Company to take on lease a portion of the Glasgow, Dumfries, and Carlisle Railway.

(9.)—A Bill to amalgamate the Glasgow, Paisley, and Greenock Railway with the Caledonian Railway, and to authorise the raising of additional money for the said last-mentioned company.

(10.)—A Bill to effectuate a lease of the Glasgow, Barrhead, and Neilston Direct Railway, and the Glasgow Southern Terminal Railway, to the Caledonian Railway Company, and to authorise the said company to raise money for these and other purposes.

By order of the directors, J. J. HOPE JOHNSTONE, Chairman.

Caledonian Railway Office, 122, Princes-street, Edinburgh, March 23, 1847.

EAST INDIAN RAILWAY COMPANY.—At a numerously attended Meeting of the shareholders, held this day, the following RESOLUTIONS were carried by acclamation:—

1. That the report of the directors be received, adopted, printed, and circulated amongst the proprietors.

2. That this meeting highly approves the proceedings of the directors, and begs to express its sense of the zeal and ability displayed in the management of the affairs of the company, and commits the future conduct thereof, with full confidence, to them.

3. That the cordial and best thanks of this meeting be given to the chairman and directors, for their able and efficient services in behalf of the company.

East Indian Railway Company, D. I. NOAD, Secretary.

8, Broad-street-buildings, April 12, 1847. 64

EAST INDIAN RAILWAY COMPANY.—The HOLDERS of SCRIP RECEIPTS, numbered from 1 to 80,000, are requested to transmit the same for registration to the secretary, at the offices of the company, No. 8, Broad-street-buildings, City, according to the subjoined form.

Parties sending scrip by post, are advised to write across the face of the receipts "Sent for Registration," and with their names and addresses.

An acknowledgment will be given for the scrip, which will be exchanged for share certificates under the company's seal, after full registration.

East Indian Railway Company, April 12, 1847. D. I. NOAD, Secretary.

Form to accompany scrip receipts, which may be obtained at the offices of the company:

TO THE SECRETARY OF THE EAST INDIAN RAILWAY COMPANY.

SIR,—I hereby transmit scrip receipts of shares in the East Indian Railway Company, numbered as below, and I hereby request you to register me as the proprietor, under the provisions of the Deed of Settlement, of shares in the East Indian Railway Company.

Christian and surname in full.....
Residence.....
Occupation.....
Date.....

Nos. of Scrip Receipts.		Fives or Tens.	Total No. of Shares Represented.
From	to		
„	to		
„	to		

N.B. The Registered share certificates will be issued in the order in which the deed is executed, and the priority regulated by the date of execution. So soon as arrangements will admit, a Notice will be issued, calling on holders of new scrip to present the same for registration.

Copies of the report may be obtained on application at the offices of the company, 8, Broad-street-buildings; Messrs. Carden and Whitehead, Royal Exchange-buildings; and Messrs. Lawrence, Cazenove, and Pearce, Bartholomew-lane. 62

EAST INDIAN RAILWAY COMPANY.—Notice is hereby given, that the DEED of SETTLEMENT of the East Indian Railway Company, LIES for SIGNATURE at the offices of the company; and the proprietors are earnestly requested to attend with their scrip on an early day in the present week, as the deed has to be sent to several places in the country. D. I. NOAD, Secretary.

East Indian Railway Company, 8, Broad-street-buildings, April 12, 1847. 63

ELECTRO-TELEGRAPHIC CONVERSER.—Messrs. BRETT & LITTLE respectfully recommend Directors of Railways, Mining Companies, and others, to DELAY the ADOPTION of any particular TELEGRAPH, until the completion of their patents shall place Brett and Little in a position to introduce a most perfect and effective instrument, at about one third the cost of those at present in use.—140, Holborn-bars. 54

GALVANIC BATTERY.—CAUTION.—We hereby CAUTION all persons AGAINST MAKING, SELLING, or USING, or CAUSING to be MADE, SOLD, or USED, a CERTAIN BATTERY, denominated a PERCOLATING GALVANIC TROUGH, or altering, or causing to be altered, any description of galvanic battery to that principle—the same being an infringement of our patent right, and a portion of the apparatus connected with our Patent Electro-Telegraphic Converser; for every infringement of which, after this notice, proceedings will be forthwith instituted.

140, Holborn-bars. BRETT & LITTLE. 53

ELECTRO-MAGNETIC TELEGRAPH—NOTT'S PATENT.

PATRONISED by H. R. H. PRINCE ALBERT, the LORDS OF THE ADMIRALTY. 66

The proprietors of Nott's Patent beg to inform all RAILWAY COMPANIES, that they are ready to TREAT with them for the ERECTION of the TELEGRAPH, on any length of railway, on the most reasonable terms. This instrument, from its simplicity of construction and certainty of action, is, after the most severe test, proved to be the most useful and efficient instrument of the kind ever yet invented, as reported on by Dr. Faraday, Capt. Brandreth, Professor Brande, Dr. Bachhoffner, &c., and, in fact, all the science of the country.

It may be seen in daily operation on the London and North-Western Railway, where it is in practical use, between Blisworth and Northampton stations; also, at the Telegraph Office, 2, Royal Exchange-buildings, where all particulars may be obtained, and the report seen.

Price One Shilling and Sixpence,

PROPOSITIONS IN AID OF CONSTRUCTING AND SAFELY WORKING, on a plan to ensure (without risk) a return of 7½ per cent. per annum for whatever amount of capital may be employed,

TEN THOUSAND MILES OF RAILROAD, &c.,

To CONNECT, with the exception of the short sea passage to Antwerp or Flushing, LONDON WITH CANTON, IN CHINA (a 12 days' journey only); with ramifications to all the principal cities, towns, and works of Europe and Asia, and to many in Africa also, if thought desirable; by means of which roads, 67

A DAILY POST AND FREE INTERCOURSE,

Commercial, social, and philosophical, may be established and permanently maintained over a population of from 600 to 700 millions of people, and the blessings of real civilisation thus spread over the globe.

"The wise and active conquer difficulties by daring to attempt them; but sloth and folly shiver and shrink at the mere sight of toil and hazard, and actually make the impossibilities they fear."

London: published at the office of the *Mining Journal, Railway and Commercial Gazette*, 26, Fleet-street.

PATENT METAL-CORED RAILWAY SLEEPER COMPANY.—NOTICE.—The applicants for shares in this company are hereby informed, that the Deed of Settlement of this company is now before the Registrar of Joint-Stock Companies for approval—that the company will be forthwith completely registered, and applicants will then be apprised of the number of shares allotted to them. 68

1, Guildhall Chambers, Basinghall-street, March 31. C. R. READ, Chairman.

PNEUMATIC ENGINE AND SAFETY RAILWAY CARRIAGE COMPANY.

UNDER ROYAL LETTERS PATENT.

Capital £500,000, in 50,000 shares, of £10 each.—Deposit 5s. per share. 69

The first call will not exceed 10s. per share.

The object of this company is to introduce a new system of propulsion, which will supersede the necessity of steam for railways, stationary engines, navigation, and in all other cases where motive-power is required, by the substitution of a new means of power, derived from the atmosphere alone, without the use of lineal tubes, stationary engines, or local machinery of any kind.

Prospectuses, with full details, will be ready in a few days, and may be obtained of Messrs. Wm. Barry and Co., 7, Birchin-lane, Cornhill, and Messrs. Lamond and Co., Hall of Commerce, by whom applications for shares will be received in London.

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED PATENT ELASTIC METALLIC PISTONS. 70

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is

1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

TO ENGINEERS AND BOILER-MAKERS. 71

LAP-WELDED IRON TUBES FOR STEAM-BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY,

42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE,

MANUFACTURE TUBES under an exclusive license from Mr. Richard Prosser, the patentee. These tubes are now very extensively used in the boilers of marine and locomotive steam-engines in England and on the continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and warranted not to open in the weld. They may be fixed in the boilers without ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham.

LONDON WAREHOUSE,

68, *UPPER THAMES-STREET.*

TO ENGINEERS, BOILER-MAKERS, AND OTHERS.—LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.

W. H. RICHARDSON, JUN., & CO., DARLASTON, *STAFFORDSHIRE,* 72

MANUFACTURE all DESCRIPTIONS of WELDED WROUGHT-IRON TUBES, for STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. Roose's recent invention (patented August, 1846).—Address as above.

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public. 73

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

IMPORTANT TO RAILWAY COMPANIES.

PATENT KAMPTULICON COMPANY, 18, CORNHILL.

This company having completed their new factory, are prepared to supply railway managers and contractors with an elastic material (perfectly non-absorbent) to place between the rails and sleepers, and between the frames and bodies of carriages, to prevent jarring, and, consequently, wear and tear. The elastic planking is strongly recommended to be used for the backs and sides of carriages, to prevent splinters when accidents occur. 74

By order of the board, P. G. GREVILLE, Secretary.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 75

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

IMPROVED LIFTING JACKS,

MANUFACTURED BY

GALLOWAYS' AND CO.,

KNOTT MILL,

MANCHESTER.

—

*** The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

IMPROVED RATCHET JACK. HALEY'S PATENT LIFTING JACK. 76

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY,

26, *CORNHILL, LONDON.*

Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates. 77

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 36 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£40 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	396 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 6

The division of profits is annual, and the next will be made in December of the present year.

F. FERGUSON CAMROUX, Secretary.

London:—Printed and Published, weekly, by HENRY ENGLISH, at the Office, No. 26, FLEET-STREET, in the city of London, where all Communications and Advertisements are requested to be forwarded—addressed to "the Editor"—post-paid. April 17, 1847.

*** It will at all times save much delay and inconvenience, if communications are directed simply

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And POST-OFFICE ORDERS, &c., must be made payable to WILLIAM SALMON MANNING, as acting for the proprietors.